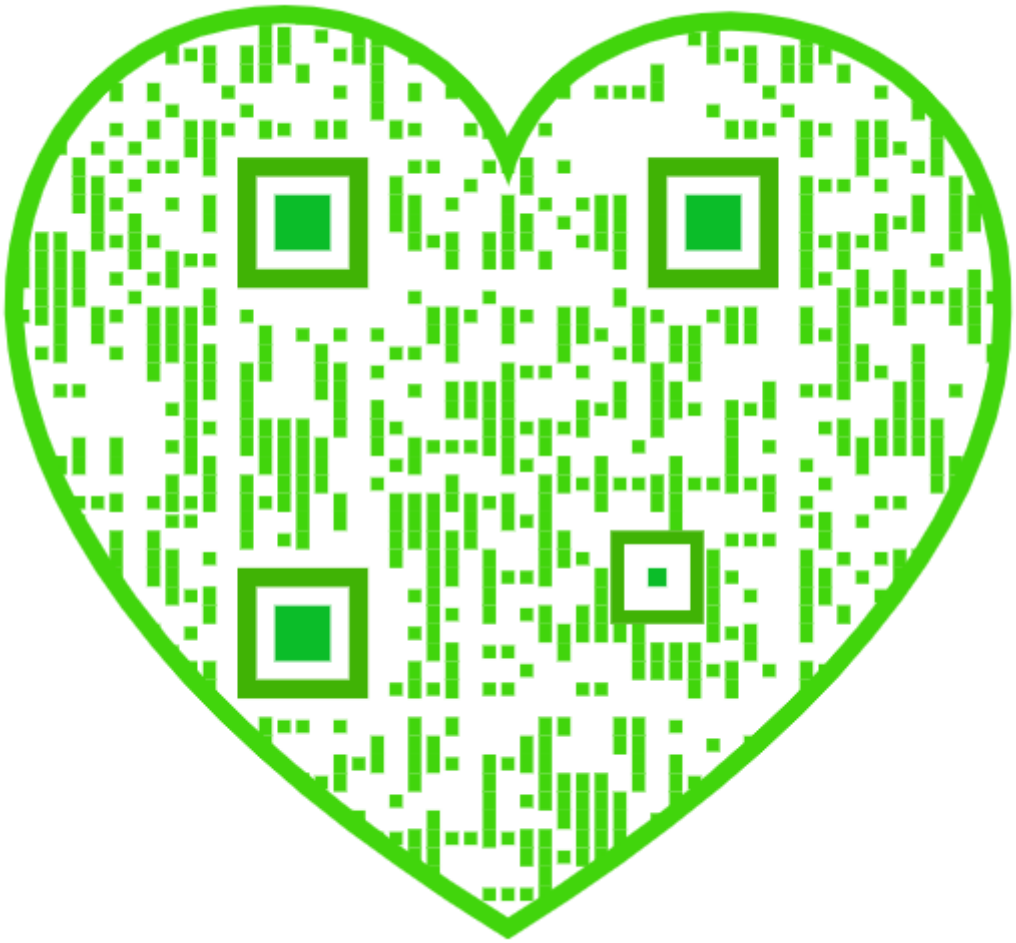

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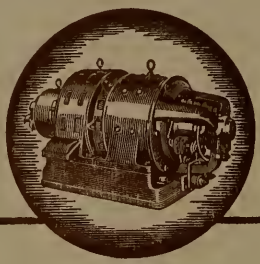
THE ARCHITECT AND ENGINEER

Work of Newton & Murray, Architects

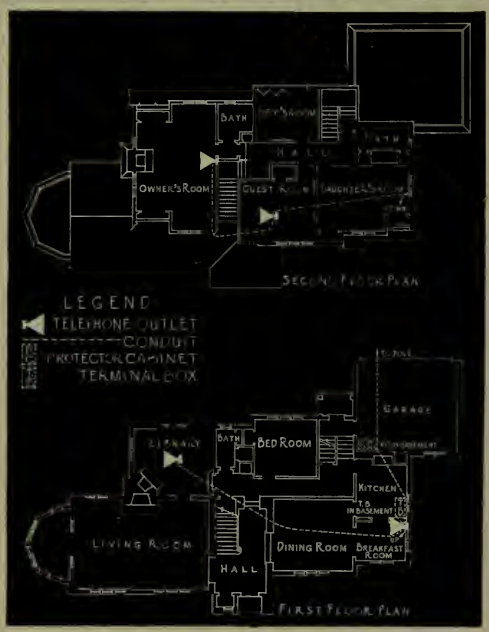
APRIL 1932



There are written and unwritten specifications. The ones by which size and shape and breadth and depth are regulated are the written specifications. The ones upon which prestige is built are the unwritten specifications. Speed, load, car size, controls, such terms as these are familiar in the written specifications for an elevator. Safety, satisfactory service, economy of operation, long life, these are associated with the unwritten specifications of an elevator manufactured by Otis. . . . Otis Elevator Company.

HOMES PLANNED FOR FULL CONVENIENCE HAVE TELEPHONES THROUGHOUT...

Telephone convenience is provided for in the residence of Mr. S. J. Simonson, Stanley Park, Yakima, Washington, by built-in conduit connecting five outlets, including one in the basement. E. G. THERNELL, Architect, *Yakima.*



CLIENTS are pleased when time proves their homes livable, comfortable. And no one factor contributes more to living comfort than adequate telephone arrangements.

You can easily provide for full telephone convenience by planning in advance—by including telephone conduit in the original specifications. Built into walls and floors, the conduit permits time-saving, step-saving telephones to be located wherever they're wanted, throughout the house. In addition, it conceals all wiring, protects against most types of service interruptions, and allows for future expansion to meet changing needs.

When you're planning a new or remodeled residence, consult your local telephone company. They'll be glad to work with you and advise you on the best telephone arrangements for your particular project. There is no charge. Just call the Business Office.

Thumb Tacks and T-Square

"To have friends is proof positive that you know how to be a friend."

⁂ ⁂ ⁂

IF the building industry is to enjoy a new lease on life, the banks and building and loan associations will have to change their present attitude in the matter of loans. Right now they are not giving a prospective builder much encouragement. Read this true story by a San Francisco architect, then form your own conclusions:

"I had a client in a nearby city who wished to borrow $12,000 to finance a new home on a corner lot valued at $15,000. The house now on the lot was built by my client's father and at one time it was considered the show place of the town. We planned to tear down the old homestead to make room for a more modern house. We visited every bank and loan association in the town and they wouldn't loan us a nickel. We finally got one banker interested and this was his astounding offer:

" 'This city, like many other towns in California,' said he, 'is over built. We need no new buildings. If you want a nice home pick out most any house in the community and we'll foreclose on it and the place is yours.' "

Is it any wonder a considerable number of our architects and builders are desperate for want of a job?

⁂ ⁂ ⁂

THE Small Buildings Committee of the State Association of California Architects, in reply to a request from the Architects League of Northern New Jersey, for an expression on the Architects Small House Service Bureau, has reported that it does not favor any type of stock plans, good or bad, no matter who may issue them, and the majority report recommends discontinuation of the Bureau. The minority recommendation is that while the committee feels the Bureau is not a perfect solution of the small house problem, it nevertheless cannot see the Bureau given up at least until some satisfactory substitute is offered.

The subject is likely to be thrashed out at the Institute convention this month, and the outcome is awaited with interest.

⁂ ⁂ ⁂

"A good thing about telling the truth is that you don't have to remember what you say."

"Do not quarrel with unfavorable circumstances."

⁂ ⁂ ⁂

THERE is no more important question before the people of the United States, as well as of all other lands, than the lack of work. A truism has been uttered to the effect that today hungry men, women and children are standing knee deep in wheat. This means that the farmers are unable to dispose of their staple product, while countless thousands are without bread. It seems so strange, and yet so simple, that probably in the years to come people will wonder why such a condition was permitted to exist, especially in a land of unlimited power and natural resources, and with inventive genius of tremendous proportions. The day of the familiar slogans has passed. "Natural causes," "the survival of the fittest," and "the poor ye have with you always," fail to contribute anything worth while for those in need of the great fundamentals of food, clothing and shelter. They are about as obsolete as the tiny verse of the English peasantry of a past century: "God bless the squire and his relations, and keep us in our proper stations."

⁂ ⁂ ⁂

"You cannot do a wrong thing right."

⁂ ⁂ ⁂

THE problems of unemployment reach everywhere. Social sullenness, malnutrition, crime, lack of medical and dental care, lessening of the educational opportunities for children, death and despair, and numerous other by-products, reach down to the very depths of our civiliation. Too many think ot the dark cloud in terms of relief kitchens and bread lines. Actually employers are unemployed, people of means find their resources have diminished or dwindled away, and all of the elements that make up society are seriously affected. The estimate of 8,000,000 wiithout work in the United States means that between 20,000,000 to 30,000,000 persons are directly concerned.

There is some consolation in the realization that men are thinking about unemployment as never before. It is the theme of the hour, writes Will J. French, Director of the California State Department of Industrial Relations. Plans to alleviate are brought into existence, he says, and many of the States have appointed commissions to devise new ways and to offer recommendations for Legislatures and citizens to consider. Congress is face to face with the issue. It will not down.

⁂ ⁂ ⁂

"The unexpected usually happens."

⁂ ⁂ ⁂

THE State Unemployment Commission of California is authorized and directed by law "to make surveys, studies, and investigations of all problems relating to unemployment, with a view to formulating such plans and recommending such legislation as will enable the State to take the proper steps toward the solution of any such problems." The law further provides that the Commission shall hold public meetings at which "the people shall have an opportunity to present their views to the Commission." In compliance with these provisions of the law, the Commission has been conducting public hearings during the current month and these meetings will be continued throughout the State of California in May. Those appearing before the Commission at these public hearings may, in addition to presenting their views orally, or in lieu thereof, proffer memoranda, letters, or papers, embodying their ideas on the subject of dealing with unemployment emergencies through legislative action, or through other organized effort by employers, employees, and the public. It should be distinctly understood that the Commission is not as yet committed to any recommendations or proposals to be made to the Legislature.

All of which may be helpful in an earnest endeavor to relieve present deplorable conditions.

⁂ ⁂ ⁂

"If you would like to be satisfied with your lot in life, build a service station on it."

⁂ ⁂ ⁂

PACIFIC PORTLAND CEMENT COMPANY declared its regular quarterly dividend of $1.62½ on preferred stock April 5. That speaks worlds for the company's good products and sound management. Furthermore, Pacific Portland Cement Company, unlike many of its competitors, has gone right along with its advertising, using generous space in this and other widely circulated trade publications. Result: A steady demand for its products and tough sledding for Old Man Depression.

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VOLUME 109
NUMBER 1

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APRIL
1932

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A PORTFOLIO OF LOVELY HOUSES by Clarence A. Tantau, W. W. Wurster, Newton and Murray, and others

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Sketch by Jess Stanton

CHURCH OF THE PRECIOUS BLOOD, LOS ANGELES
HENRY C. NEWTON AND ROBERT D. MURRAY, ARCHITECTS

THE
ARCHITECT
AND ENGINEER

APRIL 1932
VOLUME 109
NUMBER ONE

RECENT ARCHITECTURE OF NEWTON AND MURRAY

by
H. ROY KELLEY, A. I. A.

THE work of Newton and Murray shows great versatility. The commissions they have been given embrace a wide range of work from the modest home to the more pretentious buildings. Great ingenuity and resourcefulness have characterized the planning of these structures, such as churches, schools and club houses.

There is nothing stereotyped about their design. Each problem seems to have been viewed as distinctive and individual, and the results obtained have been most satisfactory.

To me, their churches are particularly interesting. An outstanding example is the Church of the Precious Blood, Los Angeles. This church, built in a commanding location, is ideally adapted to its site, both in plan and composition. Built entirely of concrete, it reflects great skill in design and striking character in composition, texture and detail. Carved panels, forming a frieze across the church, will be added in the future. Marble mosaic stations of the cross are now being added to the interior and the sanctuary and certain other portions of the interior will be covered eventually with the same material.

Another church of equal, or perhaps even greater interest, is the Church of Saints Peter and Paul, at Wilmington, California. The interior of this church is especially fine. It is simple, dignified, inviting, of remarkably good proportions and splendid detail. It has a warmth and a receptiveness that, unfortunately, seems so lacking in most churches. The pleasing proportions of the nave vault, the interesting character in the treatment of the side aisles, and the charming simplicity in the treatment of the sanctuary, are features worthy of study.

A large rectory and an auditorium of concrete have already been constructed as the first two units of the Westwood group of buildings for the Parish of St. Paul the Apostle. A school, convent and the future church will complete the group of buildings. Space has been allowed for playgrounds and an athletic field. The rectory has its own chapel, a cloistered garden and quarters for visiting missionaries and priests. The whole scheme is carried out in a Mexican Colonial style.

* * *

The schools designed by Newton and Murray display the same skill in planning and the same distinctive character in design as are shown in their churches. Outstanding examples of this type of work are Saint John's School at Inglewood, Saint Joseph's School at Hawthorne and the Lankershim City School addition.

The parochial schools at Inglewood and Hawthorne presented the difficult problem of combining a school with a temporary church, the church later to be used as a school auditorium when the permanent church is built. Due to certain limitations of the site in the case of the Inglewood school, the problem was additionally difficult. The

CHURCH OF THE PRECIOUS BLOOD,
LOS ANGELES
Newton and Murray, Architects

combination of temporary church and school is a practical solution of a very unusual problem. The building provides a good structure for the housing of the church temporarily which otherwise would be torn down later as a total loss. These schools are straightforward solutions of the problem and are devoid of frills or expensive adornment. The money being limited, as it usually is in a case of this kind, no cloistered gardens or tinkling fountains were possible. Metal trim was used where possible and useless and unpleasant, unsanitary wood trim was avoided. The pipes, et cetera, were furred in the walls which is a pleasant deviation from the too often unsightly and unsanitary running of exposed pipes through the classroom. The walls of the classrooms were finished in a soft green and the woodwork was a green of slightly darker shade. The dingy "yellow-dog" color so common to public institutions is eliminated entirely. The classrooms are cheerful and well lighted. Sanitary flush cove bases were used, all dust catching projections being eliminated.

The Lankershim Public School presented the problem of the third real building to an existing group. The other buildings were relics of bygone days and hard to match in design without recalling the Swiss chalet and Spanish distortions which occurred at one time in California. The roof necessarily is flat, similar to the old buildings, and the ornamentation followed the general character of the old buildings without some

of the meaningless and unnecessary features. The new structure is a connecting link between two buildings and is well arranged for this purpose.

An unusually fine smaller building of this classification is the Kindergarten at La Canada, California. This displays most interesting character in both exterior and interior, is ideally suited to its setting and well adapted to its needs. The atmosphere of a penal institution or reform school is avoided with light attractive colors, interesting yet simple details, and omission of useless wooden window trim. The doll-room has typical children's wall paper and light ivory woodwork. The electric fixtures, hardware, et cetera, have been carefully selected. A gas plate, sink and cupboard space make it possible to serve light meals to the children when necessary. The work room in the rear is glassed in to obtain the maximum amount of sunlight; the porch in front is used for open-air sand tables.

The La Canada Thursday Club is a small building of charming simplicity, most harmoniously related to its setting. It has a well-thought-out plan, is economic in arrangement and in construction, and well suited to its purposes. The building was built at a nominal cost to house a women's club. The porch provides a pleasant place for serving directly from the kitchen through a window with counter especially constructed for this purpose. The club house is used for dances, small plays, bridge parties, lectures and minor entertainments. The plan is flexible enough to permit the use of the club for diverse purposes since it is loaned for benefits and kindred amusements. It lacks ostentation and has a great deal of dignity.

The Eagle Rock Library presents an interesting and most practical solution to the

Robert A. Lockwood, Del.

CHURCH OF ST. PAUL THE APOSTLE, WESTWOOD
Newton and Murray, Architects

RECTORY AND CHURCH, HOLY SPIRIT PARISH, LOS ANGELES
Newton and Murray, Architects

ST. JOSEPH'S SCHOOL, HAWTHORNE
Newton and Murray, Architects

problem of a small-town library. The plan is well thought out, the building is related to its site, and the character in design is very pleasing. The main reading room is of fine proportions and possesses unusual charm. The building is constructed on a portion of the old foundation of the original and smaller Carnegie Library. The main reading room was extended in length and two side aisles added for circulation and bookcase space. The central portion was thereby reserved for table space. The other wing, or children's wing, was extended forward and it was possible to preserve the old walls, floor and a portion of the roof for this section. An attractive small roof garden with tables and large umbrellas, is provided and a meeting or lecture room was obtained off the roof garden stair landing over the work space. New toilet facilieties, and kitchen, were also provided and the old basement meeting room is used for book storage. An open porch or terrace, with a pergola for vines and a wall at the front to shield the inevit-

ST. JOHN'S SCHOOL, INGLEWOOD, CALIFORNIA
Newton and Murray, Architects

able assortment of roller skates, bicycles and baby buggies, is a practical and pleasing feature of the scheme.

* * *

The residences of Newton and Murray present the same interest and the same versatility shown on their other buildings.*

The residence of Chester Wurster at Los Angeles is planned in a manner that is intensely practical and worthy of careful study. The owner of this house had, in his boyhood days, lived in an English Colonial house of a pre-Revolutionary period, and it was his desire to reproduce in his new house the general character and many features of this old home he had known so well in his boyhood. This was accomplished in a very successful manner.

The residence of W. A. Johnson at San Marino is of a simple modified Italian character. It has a very delightful entrance doorway and a most interesting window treatment. The small house on the estate of Stanley Williams at Los Angeles is of

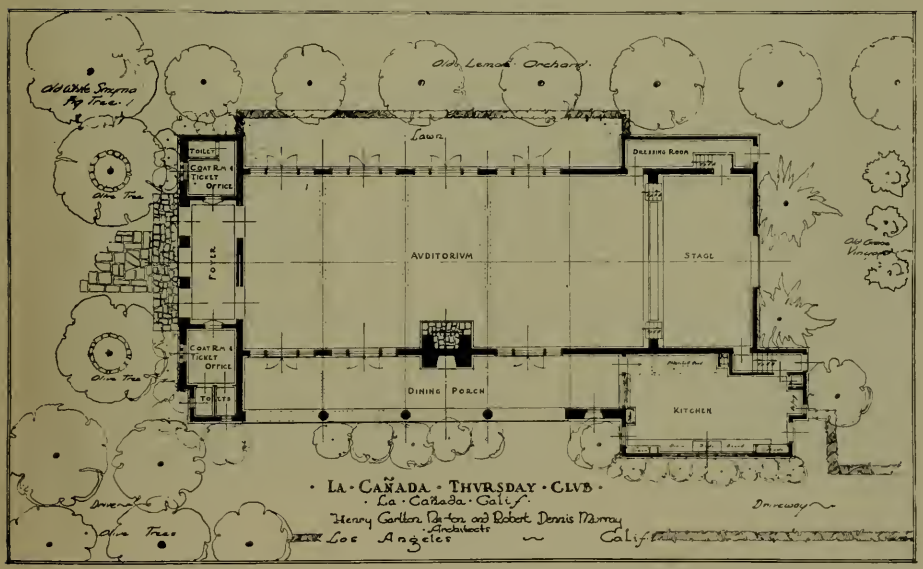
PLANS, ST. JOHN'S SCHOOL, INGLEWOOD
Newton and Murray, Architects

*Owing to limited space several of Newton & Murray's houses described here are not illustrated in this issue but will be shown in the Annual House Number next month.

ROOF GARDEN OVER GARAGE, TRI DELTA SORORITY HOUSE,
UNIVERSITY OF CALIFORNIA AT LOS ANGELES
Newton and Murray, Architects

LIVING ROOM IN TRI DELTA SORORITY HOUSE,
UNIVERSITY OF CALIFORNIA AT LOS ANGELES
Newton and Murray, Architects

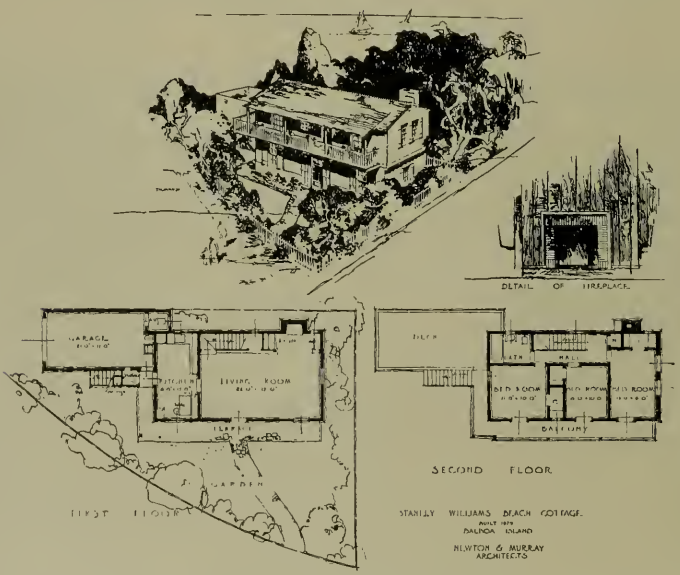
SOUTH ELEVATION, LA CANADA THURSDAY CLUB,
LA CANADA, CALIFORNIA
Newton and Murray, Architects



PLAN, LA CANADA THURSDAY CLUB,
LA CANADA, CALIFORNIA
Newton and Murray, Architects

very interesting character in composition and detail, and the house of T. Fenton Knight at La Canada is remarkably well planned for its site. The latter house is built on the site of an old adobe ranch house, portions of which still remain. The design is carried out in the traditional Early Californian manner, and the resultant character is decidely pleasing. The house was actually built to conform to certain fine old trees, the brick and stone walks and terraces, and the quaint and rather extensive system of gardens. The Babington-court off the open dining terrace is an interesting feature. A venerable old Wisteria vine covers a trellis at one end of which is a large open-air fireplace or barbecue oven. At the other end is an old adobe building in which is stored grape juice and can be used for serving refreshments when the occasion demands. The laundry, workshop, service yard and a three-car garage are at the rear off a side road. The servants quarters are still further to the rear shielded by a portion of an old lemon orchard. The house overlooks a magnificent view of the valley to the east and the second-story balcony commands a view to the north of the foothills and Sierra Nevada Mountains. A space has been provided on the grounds for a future swimming pool.

Other houses of early Californian character are the house of J. F. Lynn at Beverly Hills and the Stanley Williams Beach Cottage at Balboa. Both of these are small houses, well planned, decidedly livable in their arrangements and appointments and remarkably pleasing in character of exterior.



BEACH COTTAGE FOR STANLEY WILLIAMS, BALBOA ISLAND
Newton and Murray, Architects

ENTRANCE, LA CANADA THURSDAY CLUB,
LA CANADA, CALIFORNIA
NEWTON AND MURRAY, ARCHITECTS

DETAIL OF FRONT, KINDERGARTEN, LA CANADA
NEWTON AND MURRAY, ARCHITECTS

INTERIOR OF KINDERGARTEN, LA CANADA, CALIFORNIA
NEWTON AND MURRAY, ARCHITECTS

Photo by Miles Berne

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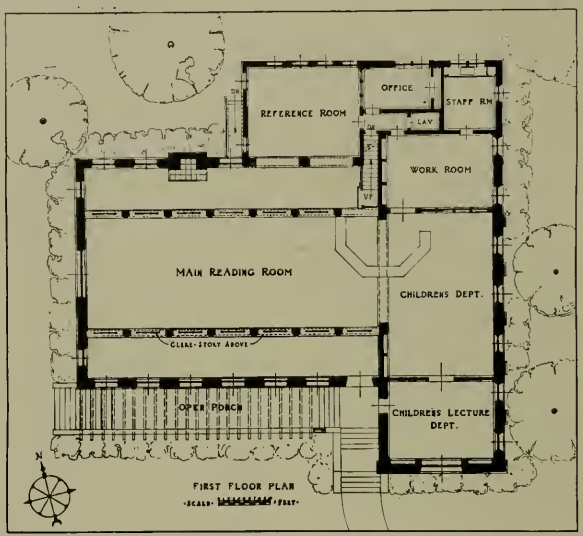
NEWTON AND MURRAY, ARCHITECTS



PLAN, EAGLE ROCK LIBRARY, EAGLE ROCK, CALIFORNIA
NEWTON AND MURRAY, ARCHITECTS

FRONT ENTRANCE, TRI DELTA SORORITY HOUSE,
UNIVERSITY OF CALIFORNIA AT LOS ANGELES
NEWTON AND MURRAY, ARCHITECTS

SCHOOL FOR ST. JOHN'S PARISH, INGLEWOOD, CALIFORNIA
NEWTON AND MURRAY, ARCHITECTS

Photo by Miles Berne

RESIDENCE OF W. A. JOHNSON, SAN MARINO
NEWTON AND MURRAY, ARCHITECTS

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STAIR HALL, RESIDENCE OF W. A. JOHNSON, SAN MARINO
NEWTON AND MURRAY, ARCHITECTS

CONCRETE IN CHURCHES

by
HOMER M. HADLEY

OUT of the experience of mankind's countless generations, the rock has come to be the symbol of that which endures and lasts and passes not away. In a world of flux and change, a world of growth and strength and all-too-quick decay, of season succeeding season and of death crowding upon life, it is the rock which has appeared to be the thing resistant and superior to the ravages of time. Seemingly changeless and immutable, it did not perceptibly alter in the span of any man's life and it came to stand as the type and evidence of things which were eternal. "Thou are Peter, and upon this rock I will build my Church."

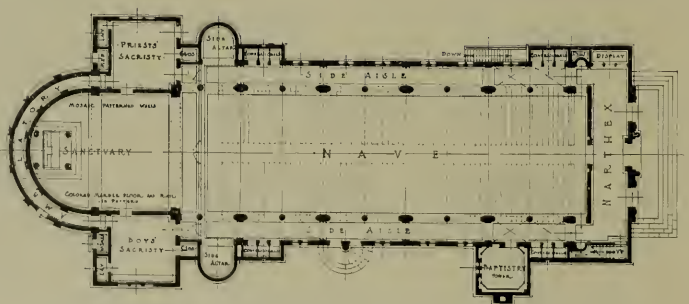
To the strictly modern mind, fascinated with the innumerable activities of present civilization and touched with a certain complacency over its own sophistication, the rock is a rather uninteresting thing which Geology proves to be not so lasting after all, and in a geologic scale of time to be as fleeting and as transitory as the wayside flower. It is not improbable that were the human mind of today no more than today's portion of it, rocks would be stripped of their symbolism and would lose many of their architectural values. But because today's human mind is consciously or unconsciously so largely shaped and fashioned by its ancestry, is so largely hereditary in its character, rocks can no more be parted from their symbolism than the modern mind can be divorced from the past. They are inseparably connected. With rocks there are inevitably associated ideas of strength and permanence and of lasting for long time.

"Ein feste berg ist unser Gott" goes the old German hymn; "A mighty fortress is our God" goes its English counterpart. In the vital living religions which govern men's lives there is always a strong feeling and faith in their fundamental permanence. Here are the lasting verities that continue through the ages, the firm basis upon which one may stand and be sure and confident. It is for this reason that impressions of strength and endurance are so desirable and so satisfying in churches and similar ecclesiastical structures. Such is the fitting, appropriate expression of the church's faith in its principles, its belief in the eternal character of its doctrine. "A mighty fortress is our God."

From such causes and reasons has come the church built of concrete, those great monolithic structures which as the eye may see, are not separated and innumerably jointed, but are whole and are continuous in all their parts. Strength and unity and indifference to the centuries are theirs in fullest measure, and they body forth their message to all who may behold them. How truly this is so is best evidenced by what has happened in the last decade. Ten years ago they were few and insignificant; now they are numerous and monumental. Only the recent years have produced the great works of Allison and Allison in Southern California, Hobart's Grace Cathedral at San Francisco, Albertson's St. Joseph's at Seattle, and all those many other fine churches that tell the same story. The works of Henry Carlton Newton and Rob-

*Regional Structural Engineer, Portland Cement Association.

Photo by Miles Berne



ST. PETER AND ST. PAUL CHURCH, WILMINGTON, CALIFORNIA
NEWTON AND MURRAY, ARCHITECTS

ert Dennis Murray, illustrated in this issue of THE ARCHITECT AND ENGINEER but further exemplify and express the same thought: strength, unity, the life eternal.

Who, who has pried open a rock and has suddenly had revealed to him the perfect delicate fossil imprint of a leaf that grew and fluttered down the wind perhaps ten million years ago, has not felt wonder and delight at such a rare fair sight? All the ribbing and the veining of the leaf, all its minute tracery, all the fine serrations of its edges, clear and sharp and perfect in this magic delineation, just as it was these perhaps-ten-million years ago! We marvel at its perfect preservation and find pleasure in the sudden contact with the past. Not entirely dissimilar from these are the feelings that form-marked surfaces of concrete create. Here was a board on which the whirling saw had made its impress of concentric markings; there is the record of slow steady growth which in surprising fashion has been transferred from form to wall. Here, adjoining side by side, were two boards that seem identical, yet were not quite the same; there, the faint markings of some nailheads. Gone now are the forms as completely as the leaf which made its fossil record in the rock, but still their presence is fresh and vital. Here is no dull monotony, no stupid uniformity—here is the stuff that interest is made of, the charm and pleasure of unstaled variety, ever fresh and ever new. Wood-form-marked surfaces in a setting of lawn and shrub and vine and bough of tree cannot well be improved upon. They are simple and honest and true, and should be well suited to churches.

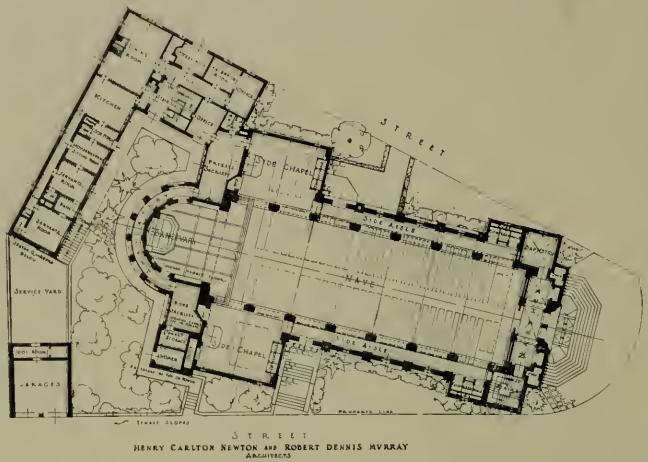
For settings of a more formal nature and in the close confines of city streets, the rough textured surfaces seem less adapted to their surroundings and give place to more formal finishes of plane surfaces and sharp arises, in keeping with the studied order of urban life. Such treatments are more formal and more artificial than the other, but quite as the polish and refinement of human manners are best adapted to the avoidance of friction in the daily intercourse of business, so do such formal treatments of concrete surfaces tend to avoid the soot and stain and unsightly discoloration of the crowded city and seem to fit better with their environment. Again is to be considered the old injunction as to ways of life in Rome.

Just as the marking of the wood grains in the surfaces gives us pleasure, so do the records of human work and effort have a pleasing and gratifying effect. The evidence of human plan and thought, the mark of the tool directed by human hands, command an interest and a sympathy which is not otherwise to be evoked. The final cutting and chiseling of the cast stone entrance to the Church of St. Peter and St. Paul at Wilmington has increased and enhanced its interest greatly; the whimsical young turtle at the corner of the corbel source of the Church of the Precious Blood is delightful.

It is the plasticity, the original utter formlessness of concrete that makes it so willing a material for the accomplishment of architectural purpose. It requires a certain amount of space and elbow room for placement, but beyond this minimum limit it is free to assume whatever shape or form the designer chooses to give it; for effects of mass and strength it is incomparably well suited. Undoubtedly there are those to whom concrete as a material for architectural use has a strange and alien look. True, it is new and in its mere beginnings and it is not yet completely standardized and organized in its construction processes, but it has life and novelty in it and the joy of fresh adventure. And if some be cold to it, let Wordsworth's primrose be remembered:

"A primrose at the river's brim, a yellow primrose was to him—and nothing more."

EXTERIOR OF APSE, CHURCH OF PRECIOUS BLOOD,
LOS ANGELES, CALIFORNIA
NEWTON AND MURRAY, ARCHITECTS



HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY
ARCHITECTS

PLAN, CHURCH OF THE PRECIOUS BLOOD, LOS ANGELES
NEWTON AND MURRAY, ARCHITECTS

Columns, caps, etc., poured monolithic in place

ST. PETER AND ST. PAUL CHURCH, WILMINGTON
NEWTON AND MURRAY, ARCHITECTS

ARCHITECTURE — A PLEA FOR RATIONAL DESIGN

by
W. S. ALDRICH, A. I. A.

ARCHITECTURE:—"the art of building with skill and with beauty of achievement" so closely related to the life of man, protecting and defending him, and expressing his emotions and desires, had its beginning when some obstreperous troglodyte was thrown out of the ancestral cave and, all the known natural caves being occupied, had to create a shelter for himself. He needed shelter; all he knew was a cave, so he dug himself a hole in the side of the nearest hill.

From that day to this, architecture has followed an orderly course, always building upon the experience of the past, always influenced in its expression by climate and materials at hand and always striving to satisfy the needs of the day. It sets forth the history of periods and of peoples, written in enduring materials for present and future ages. By the operation of the universal law of natural selection, it has registered the enthusiasm of a time for what was glorious and beautiful, the enlarged consciousness of its free-will and the possibilities of human life and effort—and again it has shown, with startling clarity, the crudeness and brutality of an era. It records on the very face of it so that "he who runs may read" the habits of peoples, the condition and nature of trades, commerce and arts, and the character and powers of governments. It has been ever changing, ever growing, ever utilizing the good of the past upon which to erect a better future, yet we are asked to believe that while its course ran regularly from prehistoric times until the end of the Gothic period, one style growing from and gradually supplanting another in natural order, it there ended and that copyism of dead and unmeaning forms began and has since continued.

In other words, that harmony which ever subsists between the conditions of man and his intellectual productions was suspended, and that architecture has from that time failed to be a natural issue of a peoples civilization and a record of a nation's progress.

In the face of much that has been written, it seems desirable to protest this widespread view and to emphasize the continued veracity of architectural history through the changing circumstances of modern life.

The Ptolemaic era in Egypt was a renaissance of the Theban age in architecture as in other respects; the wonders of Grecian architecture are a growth from the comparatively crude Egyptian as developed by a people of more refined taste. The golden period of Augustus in Rome was the architecture of Greece and Etruria applied by a people of marvelous constructive and administrative ability to clothe their more complex building requirements. The great development of the Gothic period reflects the expanding importance, wealth, power and ambitions of the "people" as compared to "rulers." The Renaissance in Italy was grafted on a Roman stem to conform to changed conditions of life, religion and government. So today our architecture illustrates the times in which we live and the conditions that rule our lives.

True it is that with regard to certain ornamental details and materials of construction, one may find on the Athenian Acropopolis or in the Roman Forum approximate forms and features similar to those that go into the composition of the modern building. But:—these particular things perform the same functions today that they did 2000 years ago, therefore to expect any material change in them is most illogical. When, however, one takes into consideration the things that are in common use with us and that were entirely unknown to the ancients, note the effect.

Steel, as a possible building material, was unknown to the Romans. The elevator was undreamed of by the designers of the mediaeval cathedrals. Sanitary drainage, (plumbing) as we know it, was unknown to the builders of the Renaissance. Yet these three things made possible the eighty-six story Empire State Building, certainly a living monument of our time. Is it not true that the designer of this building displayed as great a degree of originality as did the architect of the Parthenon, the Baths of Caracalla, Notre Dame de Paris, or the Palazzo Cancelloria?

When we realize that particular phases of architecture are the direct outcome of certain complex social, historic, and geographic conditions, there will be less impatience with familiar forms and less unhealthy demand for the absolutely new AS SUCH. We hear the demand for "originality" and for a "new style" continuously but rarely is this demand coupled with a demand that it also be BEAUTIFUL. Originality at any cost is the slogan of its partisans and originality with them does not mean a novel and beautiful solution of problems in composition and in detail but an absolute clearing of the slate of all the experience and knowledge gained in the past. What they want, and what they get is "Jazz Architecture." There have been many digressions from the straight and narrow path of rational design in the past, many attempts to pick a live rabbit out of the empty air, but all such attempts have failed and most have been forgotten. There may have been some residuum of value but if history teaches anything, it is that such aberrations should not be taken seriously and that permanent changes in art come about gradually, one merging into another as naturally as one season merges into the next.

To quote from a distinguished contemporary architect, "The greatest buildings on earth, among which stand at the head the Parthenon, the Luxor Temples, the Baths of Caracalla, the Roman Basilicas, Notre Dame de Paris, the Vatican group, the Chateau and Park of Versailles, the Taj Mahal, all were designed along traditional lines. On the other hand, where, Oh! where are the beautiful buildings wherein precedent has been discarded? The factor of highest importance in design is BEAUTY. If there is added to this the supreme gift of originality so much the better."

SMALL ENGLISH HOUSE, OAKLAND, CALIFORNIA
Miller & Warnecke, Architects

TRAINING APPRENTICES IN TIMES OF DEPRESSION

IN an address at a recent meeting of the Canadian Construction Association, J. M. Pigott, chairman of the Ontario Apprenticeship Committee, stressed the need of trade training at all times and especially now when unemployment is the order rather than the exception. "It seems a strange time to speak of the success of apprenticeship," he said, "when the whole world is at its wits' end to provide work for such mechanics as we have. The history of trade training, if it shows nothing else, does make clear how periods of depression when work was scarce, or periods of over supply of skilled men such as obtained during the peak figures of immigration, have interfered with the training of mechanics.

"The building industry is very sensitive to business conditions. Our chart of building volume is one of contrasting peaks and valleys. When money is hard to get and interest rates high—when commerce and industry slow up, building comes almost to a standstill. When, however, good times begin to come out 'from around that corner' —the first real symptom is the return of the builder to his business of building.

"While we are down in the valley of depression, however, with its unemployment and distress; when some employers find it impossible to carry on, it is natural that apprenticeship should be far from our minds. It is natural, too, that young men should hesitate to go into trades where such unemployment is apparent, and that employers should put aside efforts to induce them to make contracts with these young men. It seems opportune, therefore, that something be said in regard to some general phases of the question.

"The first point that should be made is that intensive training is more urgent in times of depression than at other or more prosperous times. When building stops two things happen. Replacement business accumulates. Building projects commence to back up as though a physical dam has been thrown up in front of them. This means, of course, too much business when normal times return. The second thing is that extraordinary wastage takes place in the ranks of skilled men in these times. They move away from active building centers and they drift into other kinds of work or get into various types of small business. If work is accumulating and mechanics are diminishing the troubles we will have to face in a few years will be serious indeed. It is clear, therefore, that no matter how inconvenient it may be it is urgent that every employer should take on more of a load than he would ordinarily carry. He should do this for his fellow employers and for his industry at large. In times of distress, such as we now have, many young men half way through their contracts find themselves through no one's particular fault, without employment and with no apparent means to go on and complete their training. These should be our first charge. Those employers having work should carry as much of this temporary burden as their work will stand.

"The second phase of this work that should be commented upon is that of the effect of these times on the plans of young men and their parents or advisers. Put yourself in the shoes of the eighteen-year-old boy for a moment and try and sense his problem. It's a mighty important decision he has to make. The four years immediately ahead of him definitely put him on his life's course. Around him he sees tradesmen dis-

contented and idle. Not only that, but he has for a year or two heard his elders' growing comment on the gradual elimination of building trades mechanics through new processes, materials and through factory competition.

"Let us consider these facts, for they are facts that puzzle this young man—

"One thing is sure—building will go on. . . . Skilled mechanics are in a competitive world just as the rest of us. They have their wares to sell. If they are progressive, alert and, above all, experts with trained minds for the possibilities of what goes on about them, they will succeed. An awakening has come. Not only have employers suddenly realized what was happening to their business, but better than that, a more enlightened trade union leadership is facing the problem and throwing its full support into the new movement which is to re-establish the trades.

"The mechanic of recent years is a survival of the physical side only of his trade. The master mechanic of two generations ago was in every sense a master. In the 12th, 13th and 14th centuries, when probably the finest Gothic work was done, the master-mason designed, made and built those splendid monuments in England which remain still unsurpassed. That is a long time ago. Not so long ago, however, less than a hundred years, he was the recognized authority of his trade. We need not dwell on the decline or its causes. We know where the ornamental plaster is made today, the interior woodwork, the stone cutting and carving. Nowadays mechanical, engineering and technical courses furnish us with the men to detail layout, follow up and expedite the skilled trades.

"The training of mechanics now and in future will give back to the mechanic of tomorrow those refinements, both artistic and mathematical, that rightly belong to him, but in addition, will give him a broad, intelligent, alert outlook which will mean not only the protection of his trade but the extension and development of it beyond all previous limitations."

UNITED STATES POST OFFICE BUILDING, MONTEREY, CALIFORNIA
William Otis Raiguel, Architect

INSTITUTE CONVENTION TO FAVOR UNIFICATION OF PROFESSION

ONE of the outstanding subjects scheduled for debate at the Sixty-fifth Annual Convention of the American Institute of Architects in Washington, D. C., this month is the adoption of a report of the special committee on unification of the architectural profession. It is believed the report will be approved. California architects who have contributed their services to the movement include Frederick H. Meyer of San Francisco and Edwin Bergstrom of Los Angeles, for the Institute, and Robert H. Orr of Los Angeles, for the California State Association, all of whom are now in the East to attend the convention. A digest of the Board of Director's report follows:

The idea of unifying the profession under the leadership af The Institute appealed to the 1931 convention, and it adopted a resolution directing the board, in collaboration with the existing state societies, "to formulate a plan whereby such societies can be brought into direct unified relationship with The Institute, and to present at this year's convention the necessary recommendations to achieve that result."

In compliance with the direction, the amendment to Chapter V of the By-Laws, set forth in the notice published herewith, will be offered by the board.

In compliance with the secretary's appeal, more than one-third of the sixty-six Chapters filed their comments, with the committees. The reactions were favorable to a marked degree, and indicated that a unification program based upon the principles set out in the published report would be approved by the membership of The Institute. Because of this indicated support of the Chapters and the State Societies, the committees consummated their work in the By-Law amendment herewith presented.

The meetings of the committees developed without question that the profession and the practice of architecture could be brought to its logical and ultimate position of leadership in the arts of design and in the building industry only by the unified efforts of all who were employed in that practice, and that it was essential to set up and complete without delay an operating organization whereby those efforts could be so coordinated and unified.

It was unanimous that such an organization should be built around The Institute, to the end that The Institute should be strengthened in its national leadership and that the efforts of all those engaged in the practice of architecture within the respective states should be coordinated and unified for the carrying on of the profession.

The acceptance of any policy affecting the profession of architecture throughout all parts of the country has always been unduly slow. The only organization that could formulate these policies was The Institute, and The Institute never has had the machinery to carry these policies to others than its own members.

Neither can The Institute under its present plan of organization ever represent more than a fraction of those who are engaged in the practice of architecture, nor can its Chapters scattered throughout the country, representing on an average not more than thirty per cent of the architects in their respective communities, speak with any assurance for the profession in those

communities. Nor do its Chapters have any organized contact with the architectural draftsmen or with those architects who are not members of The Institute. Although these unaffiliated draftsmen and architects are the men whom presumably it is necessary to reach in order to secure an acceptance locally of the national policies of The Institute and although these men constitute the only field from which The Institute can draw its members, nonethe-less The Institute has never had any effective means of reaching them.

The purposes of unification are clear. It will provide an effective means of contact with these practitioners who are not members of The Institute, and a means of making them acquainted with the purposes of The Institute and with its policies. It will provide the means and the organization whereby the power and influence of all engaged in the profession of architecture in a given community, whether that be the nation, the state, the county, or the city, can be called forth and exercised for the purpose of guiding the public sentiment on matters affecting the profession, and whereby they can meet, determine, and act on the professional matters and affairs that relate to that community. Unification will result in an effective coordinated and unified use of the efforts of those engaged in the practice of architecture, and at the same time will eliminate duplicated organizations, activities, and expense.

Finally, unification will preserve and enhance all that The Institute has achieved in its seventy-five years of endeavor, its leadership, its distinctive membership, its name and its insignia.

In discussing the various plans of unification, the suggestion that unattached architects or others should be added directly, as individuals, to The Institute under any form of classification of membership was deemed unwise. The committees and the board unquestionably agreed that the direct individual memberships in The Institute should remain as at present constituted, and be controlled by selection and election even more carefully than at present. They concurred most strongly in the principle that The Institute always must be predominantly controlled by its individual members. They believe that the plan of unification proposed must result in the enhancement of the quality of The Institute membership, approaching more nearly to the high qualifications advocated so earnestly by those Institute members who desire The Institute to be a severely restricted membership of carefully selected architects. And they submit that the distinction between the architect who is a member of The Institute and the architect who has not been elected to that membership must rest more and more strongly on the character of the work that The Institute member has accomplished; on his professional and moral attitude toward his practice, his obligations and his fellows; and on the reputation he has achieved for integrity and fair dealing in the community in which he lives.

The plan provides a place for the architect who does not subscribe to everything that The Institute requires of its members, and for him who is not prepared or ready to undertake the obligations of Institute membership. It provides that place for him in an organization which has a separate corporate existence from that of The Institute. In that separate organization he must work on professional matters side by side with the Institute member, and it would seem that he must absorb the viewpoint of The Institute from that contact.

That separate organization is the State Association, the recruiting ground for the future members of The Institute.

It is evident that the proposed unification plan provides two organizations functioning in the same field—the State Association and its branches and the local Chapters of The Institute. In those states where this dual situation has existed for some time, it has become usual for the representatives of the State Association and the representatives of the Chapter to meet together for a common decision and pronouncement as to local problems, and for a division of the organization work between them.

More and more this division of work has tended to allocate the educational and cultural work to the Chapters and the busi-

ness and legislative work to the state associations. This division of endeavors has been in the minds of the committee throughout their considerations, and has guided them in allocating the architectural students and architectural draftsmen in the unified plan.

Hence all have agreed that it will be the duty and responsibility of the Chapters within the territories of which are located schools of architecture recognized by The Institute, to look after the architectural students within those schools, and it will be the duty and responsibility of the State Association to look after the architectural draftsmen within their territories. The latter duty you will find incorporated in the proposed amendment and the Committee on Constitution and By-Laws expects to propose to the Sixty-sixth Convention an amendment relating such Chapters definitely to such students, making it their duty to establish student Chapters within those schools and their responsibilty to maintain such societies as live and organic parts of the unified professional structure.

The proposed plan of unification is not the simplest structure that could be set up, but it continues the familiar forms of Institute organization and membership, even if it adds new elements thereto and modifies some of their administration procedure. It recognizes the existing state associations, but requires them to enlarge their memberships and their responsibilities to the profession, if they elect to become allied with The Institute. It provides an effective contact of The Institute and the State Associations, but each of the associations will be an independent corporate entity with a membership distinct and entirely separate from that of The Institute, governed under its own By-Laws and rules, and with entire independence of action within its territory so long as it does not nullify or subvert a policy of The Institute.

The State Associations, when they comply with the requirements of The Institute, may become organization members of The Institute, entitled to vote at its meetings through duly elected delegates of the association. The number of their votes and delegates is limited to a maximum of one hundred for all state societies and to a maximum of three for any one of them, for it is the intention that the voting power in The Institute shall always remain preponderantly with the individual members.

The State Associations will have no interest in the property of The Institute, and as organizations only will be entitled to use the title "State Association of The American Institute of Architects," without abbreviations, as a suffix to their own names. The individual members of the State Association may not use any title, words, initials or insignia of The Institute that will imply that they are members, associates or affiliates of The Institute, unless they are actually such members.

There are ten State Associations of architects operating at the present time. These ten states contain two thousand Institute members, about two-thirds of the membership of The Institute. Six of these states contain one-half of the Institute membership. If all of these existing societies should conclude in the near future to become affiliated with The Institute, then it is reasonable to suppose that approximately two-thirds of all of those engaged in the profession of architecture in the United States would be included very soon in the unified plan.

The following are the Amendments Proposed by the Board of Directors in the form of Convention Resolutions:

(1) *Resolved:* That Chapter V of the By-Laws be stricken out and that a new Chapter V be substituted therefor, reading as follows:

CHAPTER V

State Association Members

Article 1. The State Associations.

Section 1. Establishing State Associations.

(a) *State Societies Defined.* A statewide organization of persons pursuing the profession of architecture within any State is a State Society within the meaning of these By-Laws.

(b) *State Association Members Defined.* The Board of Directors of the Institute may admit any such duly incorporated state society to voting membership in The Institute as a State Association Member, whenever a state society, having duly ap-

plied for such membership, is found by the said Board to be eligible therefor and qualified to be admitted thereto. In this Article 1 the state association member is called "State Association."

(c) *Establishment.* To accomplish the unification of the profession a state association should be established in every State wherein such an organization does not exist.

(d) In this Article 1 the architectural draftsmen are called Juniors and the architects entitled to vote at a meeting of a state association are called State Members.

Section 2. Qualifications for Admission to The Institute.

(a) A state society shall be eligible for admission to The Institute and qualified to be admitted thereto as a state association member, if and when it complies with the requirements for such membership prescribed in this paragraph to wit:

(a-1) The state association must be an incorporated non-profit membership society or association organized for objects and purposes similar to those of The Institute, and its article or certificate of incorporation and by-laws and all amendments thereto must be satisfactory to and duly approved by the Board of Directors of The Institute.

(a-2) It is the intention of these By-Laws that every state association shall be a state society or association representing all persons that actively or otherwise comprise the profession of architecture within the State, in contradistinction to the restricted membership of The Institute. Therefore, the By-Laws of the state association must provide that every architect and architectural draftsman resident within its State shall be eligible for membership in or for association or affiliation with the state association if such person is not engaged in the business of constructing or erecting buildings as a contractor or builder. The said By-Laws must furthermore provide that if the State has licensed a person to practice architecture and/or has registered him as an architect within its territory or if an architect or architectural draftsman within the state is an active member of The Institute, the such license, registration and/or membership shall be prima facie evidence of the eligibility of such person for membership as a state member in the state association.

(a-2-1) The provisions of this paragraph (a-2) shall not be construed to preclude a state association from setting up within itself two or more classes of state members, associates, or affiliates, and fixing the qualifications and privileges for each such class, and/or from judging the conduct of its members, associates and affiliates and/or from terminating the membership, association or affiliation of any thereof in the state association.

(a-3) The by-laws of each state association must provide that the state association shall pay the annual dues required by The Institute, at the time fixed therefor. The amount of such annual dues shall depend on the number of state members and juniors enrolled in the state association on January 1 of each year, and shall be calculated at the rate of $1.00 per junior and at the rate of $1.50 per state member, exclusive of those who are active members of The Institute.

(a-4) The said by-laws must provide that the state association may not resign its membership in The Institute unless the resignation has been duly voted by the concurring vote of not less than two-thirds of all voting members of the state association.

(a-5) The said by-laws must contain provisions in addition to those hereinabove prescribed: setting forth,

first: the relations of the state association to and with The Institute;

second: requiring the establishment and carrying on of reciprocal relations and undertakings with the Chapters of The Institute within the State;

third: the period of its fiscal year, which must be attuned to that of The Institute;

fourth: requiring the establishment of sub-organizations within the State composed of State members and/or juniors, as and when the welfare of the profession therein shall require;

fifth: that the state association shall support The Institute in its activities, and must not directly or indirectly nullify or subvert

its general policies, but that the state association may maintain and exercise the freedom of action of an independent organization with respect to the manner in and extent to which it supports and carries out those general policies.

(a-6) Every state society shall pay an admission fee of $25.00 to The Institute on its admission thereto as a state association member.

Section 3. Representation of State Associations at Meetings of The Institute.

(a) *Delegates.* Every state association in good standing in The Institute shall be entitled to nominate and elect one or more of its state members as delegate or delegates to represent it at meetings of The Institute and to appoint one such delegate to cast the vote of the state association thereat. In these By-Laws such delegates are called "Association Delegates."

(a-1) At least one delegate from every state association must be an Institute member in good standing.

(b) *Number of Delegates.* The number of delegates that each state association in good standing shall be entitled to have represent it at meetings of The Institute shall depend upon the number of voting members in the state association on January 1 of each year, and shall be fixed by the Secretary of The Institute, from the reports of the state association for the prior year duly filed in his office.

(b-1) The total number of such delegates to which the state associations will be entitled at any meeting of The Institute shall not exceed one hundred delegates. Until such maximum number is reached, every state association in good standing shall be entitled to be represented by one delegate at any metting of The Institute; every such state association having more than three hundred and not more than five hundred voting members, shall be entitled to two delegates, and every such state association having more than five hundred voting members shall be entitled to three delegates, which shall be the ultimate number of delegates to which any state association shall be entitled.

Section 4. Voting of State Associations at Meetings of the Institute.

(a) A state association in good standing in The Institute shall be entitled to vote on any question or division at any meeting of The Institute except on one relating to the property of The Institute of its Chapters.

(b) The vote or votes of a state association at a meeting of The Institute must be cast as a unit and not otherwise. The procedure of determining the unit vote of a state association shall rest with the state association, and such vote must be cast by a delegate of the state association who is an active member of The Institute in good standing, and has been duly authorized by the state association to cast the vote.

(c) The number of votes that each state association in good standing shall be entitled to cast at meetings of The Institute shall depend upon the number of voting members in the state association on January 1 of each year, and shall be fixed by the Secretary of The Institute from the report of the state association for the prior year, duly filed in his office.

(c-1) The total number of such votes which the state associations will be entitled to cast at any meeting of The Institute shall not exceed one hundred votes. Until such maximum number is reached every state association in good standing shall be entitled to cast one vote at any meeting of The Institute; every such state association having more than three hundred and not more than five hundred voting members shall be entitled to cast two votes thereat; and every such state association having more than five hundred voting members shall be entitled to cast three votes thereat, which shall be the ultimate number of votes to which any state association will be entitled.

Section 5. Determination of Number of Association Delegates and Votes.

(a) Each year the Secretary of The Institue shall determine the number of delegates and the number of votes each state association will be entitled to for the then calendar year, and will give each state association due notice thereof as soon as possible after January 1, but not later than March 1 of each year.

Section 6. Privileges of Non-Voting Association Delegates.

(a) Association delegates that do not cast the votes of state associations need not be active members of The Institute and shall be entitled to be admitted to any meeting of The Institute and shall have all the privileges of the voting delegates thereat, except that they shall not vote.

Section 7. Interest, Rights and Privileges.

(a) *Property Interests.* A state associashall not have any title to or interest in any property of The Institute and it shall not be liable for any debt or other pecuniary obligation of The Institute, nor shall The Institute have any title to or interest in the property of any state association unless The Institute and the state association shall otherwise agree in writing, nor shall The Institute be liable for any debt or other pecuniary obligation of any state association. The Institute and any state association may act as agent or otherwise, one for the other, for the purpose of collecting and forwarding dues or acting as custodian of funds or otherwise if they duly execute a written agreement to that effect.

(b) *Rights in the Name of The Institute.* A state association, while in good standing in The Institute, shall be entitled to and may exercise all the rights to and privileges in certain intangible property of The Institute that are conferred on it by these By-Laws and/or that the Board of Directors of The Institute shall specifically grant to it from time to time. Each state association may use as a suffix to its own name, the title "State Association Member of The American Institute of Architects," but such title or any abbreviation or part thereof shall not be used by any of the members, associates, or affiliates of the state association, nor shall any such member, associate, or affiliate print or otherwise use or cause or permit to be printed or otherwise used any other title or phrase or any initials, seal and/or insignia denoting membership or otherwise in The American Institute of Architects in any manner or for any purpose whatever or to publish or otherwise declare himself a member of The American Institute of Architects unless he shall be an active member of The Institute.

(c) Every state association shall be entitled to three copies of each bulletin, Proceedings and Annuary of The Institute for its files and three copies of each thereof for the files of each of its sub-organizations, and it shall also be entitled to receive the bulletin of The Institute in sufficient numbers to allow the state association to distribute one copy of said bulletin to each of its state members who is not an active member of The Institute and one copy to each of its Juniors who is not an active member of the Institute. The state association may also acquire for its state members and juniors such other documents and literature as The Institute shall cause to be published and/or distributed, at and for such terms as the Board of Directors of The Institute shall fix from time to time.

Section 8. Existing State Associations.

(a) The provisions of this Chapter V shall not be construed to require any state association, organized and existing under the provisions of Chapter V before this amendment is effective to dissolve its organization, or to change the form thereof or to relinquish or lessen any of its rights and privileges, but every state association hereafter organized must conform to the requirement of Chapter V of these By-Laws as hereinabove set out in Sections 1 to 7, inclusive, in order to become a part of the Institute body.

STRUCTURAL and MECHANICAL ENGINEERING

AIR-WASHING SOLVES HUMIDITY PROBLEM

by
ELLIOTT TAYLOR

THE use of air washing equipment in conjunction with central heating plants has solved the archiect's problem of overcoming humidity conditions.

Air washing equipment now in use is easily adaptable to a central heating system, and as it is being rendered more compact and less expensive, it will undoubtedly find wide acceptance for residence installations as well.

An interesting example of such an installation in connection with a gas-fired central heating system is found in the newly completed office building of the Coast Counties Gas and Electric Company at Watsonville. This installation includes four gas-fired furnaces connected in series with an air washer, which acts as a purifying, humidifying and cooling unit.

The air washer now in use is supplied with one bank of 24 centrifugal spray nozzles, this being all that is necessary due to the short temperature range in the climate. When more cooling is required, washers are obtainable with double banks of sprays.

It is also equipped with flooding nozzles, which are installed on separate headers extending across the washer close to the scrubber eliminators and deliver a sheet of water across the eliminators. This keeps them thoroughly washed down and wet at all times, giving a more thorough washing to the air than would otherwise be possible.

The water reservoir is connected to the intake of a double suction direct connected motor driven centrifugal pump which forces the water through the small spray nozzles. The air is taken from the outside and drawn through this spray into an American No. 4 centrifugal fan with a 3 H.P. motor, which forces the cleansed and humidified air through the furnaces and into the air ducts, thus insuring clean, warm air at all times.

During the non-heating season, the furnaces are cut out, the fan is operated as usual and the air washer acts as a cooling unit. This is due to the fact that some moisture is evaporated and absorbed by the air. As the evaporation of this moisture requires heat and this heat is supplied by the air, the temperature of the air is lowered.

These heating and air washing units are controlled by a push button located in the business office of the building, which in turn operates a motor valve on the gas line to the furnace. Each furnace is equipped with a safety pilot, so that in event of a pilot going out, the motor valve is automatically closed and cannot open until the safety

pilot is again lighted. Connected in series with the motor valve and safety pilots is an airstat which prevents overheating of the furnace.

The accompanying sketch shows the relative position of the heating and air washing equipment in the furnace room of the Coast Counties Gas and Electric Company building, together with the position of the fans, fresh air intakes, air ducts, etc. The building itself, designed by Albert F. Roller and described in detail in THE ARCHITECT AND ENGINEER for February, is of one story construction, L shaped, and approximately 73 x 100 feet in ground area. It consists of a large sales floor and display room, two model kitchens, conference and meeting room, together with the regular offices of the company.

Air washing is simply a duplication of the natural purification of the air which occurs during a heavy rain. It cleanses, purifies and freshens the air, removes dust, odors and bacteria, cools if desired, and provides an effective method of controlling the humidity in the entire building. In fact, such an installation not only makes a more healthful condition, but actually makes possible a considerable saving in fuel, due to the fact that for equal comfort the excessively dry air encountered when buildings are heated without humidification requires a temperature higher than when air at the proper humidity is supplied with an air washer.

The essential elements of the washer are: the spray system for bringing the air and water into intimate contact; the scrubber eliminator system for removing dust particles and unevaporated moisture; the casing which encloses the machine and confines the air in its proper path; and the tank which provides a water storage and serves as a support for the rest of the apparatus.

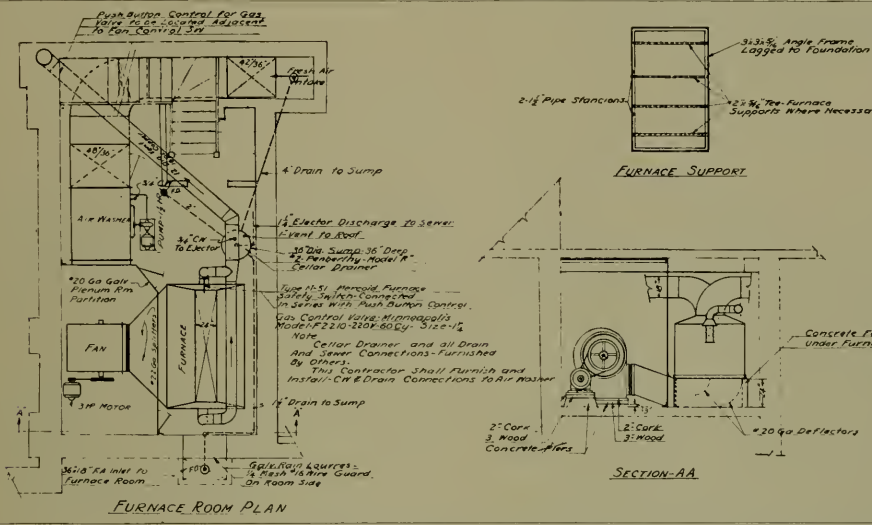
After the air has passed through the sprays and the water has done its work, any free or unevaporated moisture must be removed. This is the function of the scrubber eliminator plates located at the exit of the washer. Their zigzag formation forces the air to change its direction several times

Photo by Moulin

BUILDING FOR COAST COUNTIES GAS & ELECTRIC COMPANY, WATSONVILLE, CALIFORNIA
Albert F. Roller, Architect

in passing through them. The unevaporated water, which contains the dust particles, being heavier than the air, is thrown out of the air stream on the turns, clings to the eliminator plates and drains down into the tank. The extension hooks, which are provided on the air leaving end, eliminate all free moisture from the air before it leaves the washer.

Since germs and bacteria do not exist free in the air, but cling to the dust particles floating in the air, by removing the dust, the washer also rids the air of bacteria. Obnoxious odors and gases are dissolved by the water and thus removed.



RELATIVE POSITION OF HEATING AND AIR WASHING EQUIPMENT IN FURNACE ROOM OF COAST COUNTIES GAS & ELECTRIC COMPANY

ENGINEERS HEAR REPORTS ON CONCRETE MASS TESTS

POINTING out that stresses and strains imposed on cement and concrete in such masses as large dams are highly complex and entirely different from other structures, sixty construction engineers forming the committee on mass concrete of the American Concrete Institute discussed future tests on the Hoover dam and other structures at the University of California, where a three-day meeting was held the early part of April.

According to Professor G. E. Troxell of the University of California, secretary of the committee, tests will be made with new type strain meters and electric resistors on the new dam to be constructed by the city of Pasadena which the engineers believe will give them highly valuable information of the strains and stresses placed by heat and hydration throughout the mass of concrete. In addition to tests in the laboratories of the university further tests will also be made of the Hoover dam during and after construction.

D. C. Henny of Portland described the field tests which have been made for the committee on the Bull Run and Ariel dams in Washington. Other reports were presented on other tests carried out on the dams of the United States Reclamation Service. It was predicted that the mass of data compiled since the formation of the committee in November, 1929, is providing engineers with information which will enable them to construct concrete dams with a better understanding of the effects of heat and shrinkage.

GOOD ENGINEERING ESSENTIAL IN MODERN BUILDING DESIGN

Contributed by
Structural Engineers Association
Of Northern California

THERE is a great deal of confusion or misconception in the public mind as to the respective functions of a structural engineer and an architect in the design and construction of buildings. It is one purpose of this article to make clear, in a general way, the nature of the services an owner of a prospective building may expect from each profession.

In the buildings of the past and in residential work and many minor buildings of today, it was and still is possible for one man alone to possess the necessary ability to design such buildings. The introduction and wide use of new materials, such as steel and reinforced concrete, and the great advances made in electrical and mechanical engineering, however, have made possible the modern large building. This has resulted in such a complexity of requirements as to necessitate the application of specialized professional knowledge to the problem.

The three principal professions involved in the design of a modern structure are Architecture, Structural Engineering and Mechanical Engineering, each of which covers too broad a field to be mastered thoroughly by any one person.

The particular quality that one must possess before he can properly call himself an architect is the ability to design a building or structure in such a way as to fulfill the purposes of its use and, at the same time, possess as much beauty as possible. It is not intended to infer that the architect can not do or does not perform many other functions on a building, but if he lacks these particular abilities he is not truly an architect.

The particular quality that one must possess before he can properly call himself a structural engineer is the ability to provide the necessary safety and stability to a structure using such methods, materials and types of construction as will result in the greatest economy compatible with utility.

The mechanical engineer handles all matters concerning electrical and mechanical work, such as plumbing, heating, ventilation, lighting, elevators, etc. While he performs very important services it is not within the purpose of this article to dwell further on his connections with buildings.

Apart from questions of appearance, safety and economy, there are many things to be done in a building, such as planning and arrangement, supervision of construction, estimating quantities and costs, the coordination of the various elements that make up the building, etc. In a modern building there are many pipes, conduits, ducts and fixture outlets required for the plumbing, electrical work, ventilating, heating, etc. Some one has to compose and reconcile the many conflicting requirements which arise. The architect has, generally,

performed this function of coordinating and unifying these conflicting elements, but the engineer as well is, by training and temperament, exceptionally well qualified to do this work. We therefore, see the planning and construction of many industrial plants and other structures where the appearance of the building is of secondary importance, being directed by engineers.

Sometimes owners of prospective buildings are inclined to hire the cheapest kind of architectural or engineering services, thinking that they are making economies. Such economies, generally, result in inferior buildings, often at additional cost.

An owner of a proposed building usually selects an architect but gives no thought to the need of a structural engineer. Most well established architects consult competent engineers to design the structural elements in a building, with good results, but often we find the selection dictated by financial or political interests, which is not always advantageous to the owner.

Sometimes an architect, in order to save as much of his fee as possible, gives the engineering work to some one who will make a set of plans cheaply, entirely disregarding his obligation to give the owner an economically designed and efficient structural frame.

Economy in structural design does not imply any reduction in the safety of the structure and, in fact, often works the other way. A very elementary example may serve to bring this out. The floor of a room 10′x20′ may be supported by 2″x16″ joists spanning 20′ or 2x8 joists spanning 10′. The load carrying capacity for the same spacing of joists will be identical, but twice as much material will be used with the 2″x16″ as with the 2″x8″ joists. Spanning the 10′ way not only uses half as much material but further gives a stiffer and better structure and less resulting shrinkage. In the majority of structures the choice is not so simple. It requires thorough technical training, wide experience and judgment to decide many questions that arise. To illustrate:

Should one use steel trusses, wood trusses, a concrete girder or a concrete arch?

Should one use a steel frame with concrete slabs, or a reinforced concrete flat slab construction?

Should provision for earthquake and wind loads be made in the structural frame alone or in the wall alone or in a combination of both?

What is the most economical and suitable arrangement and spacing of columns?

Should one span the girders one way and the beams the other, or vice versa?

Is it preferable to use wood piles, concrete piles or spread footings?

Should one use columns and curtain walls, or would it be better and cheaper to provide bearing walls?

The above are a few of the questions that the structural engineer must answer in every building. The cost of the structure is very materially affected. Many examples can be given where changes in methods of framing or materials have resulted in considerable savings.

Over $12,000 was eliminated in a $65,000 contract in a bank building by changing the methods of carrying the loads, resulting in a cheaper and better building.

The structural steel in several designs of equal strength but varying in the arrangement of the supporting elements for an airdrome varied from 270 to 400 tons.

In a department store recently built, designed by Eastern architects and engineers perhaps not familiar with the local conditions and requirements, over $10,000 was wasted in the foundation alone on account of uneconomical arrangement of piles and footings and inefficient design of retaining walls.

Space does not permit further detailed discussion of the importance of proper engineering service and advice. Suffice it to say that safety, integrity and economy cannot be put into a structure by mere calculation of weights and sizes, but can result only by the application of a thorough engineering knowledge plus a broad judgment based on wide experience.

SAN FRANCISCO ARCHITECTS OPPOSED TO SMALL HOUSE SERVICE BUREAU

THE report of the Small Building Committee, Northern California Chapter, A. I. A., has been submitted to the Executive Board. It recommends a discontinuance of the Small House Service Bureau, endorsed and controlled by the A.I.A., and places itself on record as unalterably opposed to stock plans and specifications, good or bad, offered for sale and distributed free. The report in full follows:

Objections to the Architects' Small House Service Bureau in this report are closely related to statements in the Bureau's book "Small Houses of Architectural Distinction." The committee has no knowledge nor does it believe that in this State of California, where there are no branches of the Bureau, that the sale of plans has affected, adversely, architects securing work.

The book states that an architect's service is essential for success in the building of a small house; it continues to highly praise the services an architect renders but it offers to substitute, in the form of "stock plans" which, while admittedly not as good, yet are paradoxically recommended as sufficient and quite satisfactory.

It states that an architect may not be available in the locality; that the fee an architect is obliged to charge is *often* more than a small house owner can afford; yet it states further that an architect's services can and should be employed to superintend the construction. It would appear, considering the above, that if an architect is available to supervise the construction, he would also be available to prepare plans.

In the matter of fees, the committee feels certain that one who can afford to build, cannot afford to build without an architect. This is the premise of our State Association in all of its educational work and activities.

To offer plans at $6.00 per room complete with architectural documents can not help but give the public the impression that the architect's fee of several hundred dollars for a similar service is excessive and unnecessary. The public is not prepared to discriminate between the two services offered, one being a cheap and incomplete plan service; the other full architect's services.

It is the rule of all business that you cannot sell that which you give away. To give stock plans in the spirit of charity is to rob the public of America of that which they most need, "better housing."

The committee believes that the offering of stock plans and specifications, no matter how well prepared, is not in the best interest of the public. Drawings and specifications are merely a means to an end and without architectural guidance, the result is often disastrous. In any type of incomplete service the public suffers, and it is not economical. The committee believes a building, including architect's fees, is not necessarily more expensive if the architect renders a competent, complete service. The committee has, from facts, gathered, information that an architect can save on a building the cost of his fee.

The committee believes that architectural services based on legitimate fees are economically sound and points to the distress in the building industry at present as resulting in part from the lack of proper professional architectural guidance.

We are building up under the Bureau's advertising and propaganda a general belief that architect's fees are superfluous and stock plans sufficient.

The Executive Board has asked for a recommendation concerning the Small House Service Bureau; we include all stock plans.

The recommendation of the majority of the committee is that, in the interest and welfare of the profession and public, the A. I. A. should discontinue the Small House Service Bureau at this time. (The minority recommendation is to allow the Bureau to continue until a proper scheme can be worked out whereby the architect can handle small building work.)

The committee recommends that the A. I. A. should pursue other means of educating the public, such as a display of good architectural photographs in public exhibitions and to impress upon the public by various means the value and economy of employing individual architectural services.

The committee further recommends that steps should be taken to immediately stop or remove from circulation, all stock plans and specifications, good or bad, offered for sale or given away by various magazines, manufacturers, and building material organizations, and legal steps taken to combat plan book services in California.

That no future competitions should be recognized by the A. I. A., which have for their motive the sale or giving away of plans or specifications for building purposes. We do recommend that these competitions be encouraged for their educational value solely.

That no group in the State Association of California Architects or A. I. A. should maintain a plan service bureau or foster any partial or incomplete service.

« « « « With the Architects » » » »

PACIFIC AVENUE RESIDENCE

Gardner Dailey is the architect of a two story frame and brick veneer residence which Henry Cartan will build on Divisadero Street, between Pacific Avenue and Broadway, San Francisco. This $20,000 home will occupy the site of the old William Sesnon estate.

RED BLUFF LODGE BUILDING

Plans have been completed by Dragon & Schmidts, architects in the Mercantile Bank Building, Berkeley, for a $40,000 Masonic Temple at Red Bluff. Bids for the construction of the building are now being received.

PITTSBURGH THEATER

Plans have been completed for a $40,000 moving picture theater at Pittsburgh by A. A. Cantin, architect, 544 Market Street, San Francisco. Mr. Cantin also prepared the plans for modernizing the old American theater in Oakland.

POST OFFICE PLANS COMPLETED

George W. Kelham, architect, has completed plans for a four story Class A addition to the Post Office building at 7th and Mission Streets, San Francisco. The plans are now in the hands of the Treasury Department at Washington, D.C. and bids are expected to be advertised immediately. The addition will cost $750,000.

BRANCH POST OFFICE BUILDING

The United States Government has let a contract to P. F. Reilly and John Grace of San Francisco, to build a one story and mezzanine Class C branch post office building on the north side of Sutter Street, near Van Ness Avenue, San Francisco. The approximate cost is $33,000.

TELEPHONE EXCHANGE

Plans are being figured from the office of E. V. Cobby, architect, 140 New Montgomery Street, San Francisco, for the erection of a two story and basement Class A telephone exchange building in Monterey. Construction will be steel frame, concrete and brick. The appropriation is $100,000.

UNIVERSITY LAW SCHOOL

A. H. Albertson, Joseph Wilson and Paul Richardson, associated, of Seattle, are preparing preliminary plans for a four story brick law school for the University of Washington at Seattle, to cost $400,000.

RENO HOTEL

Preliminary plans are being prepared in the office of A. Godfrey Daily, Hill Street Building, Los Angeles, for a three story reinforced concrete hotel to be built on a 400 acre tract near Highland Reservoir, Reno, Nevada. New York capitalists are understood to be financing the $2,000,000 two hundred and four room hostelry.

TO HOLD EXHIBITION

Edwin L. Snyder, architect of Berkeley, will hold an exhibition of photographs and sketches made by him while in Europe last year, at the Berkeley Art Museum the week of May 22nd.

Mr. Snyder reports considerable new work in his office, including a $10,000 home for Mrs. Hamilton-Moskowitch and a house for himself to be built on The Alameda in Berkeley. The latter will be of the California farmhouse type.

PLANS CLUB HOUSE

The American Legion will have a new club house at Alturas, California, to be financed by the Supervisors of Modoc County. Plans for the structure were prepared by Ralph Taylor, architect, of Alturas.

$15,000 COUNTRY HOUSE

Plans have been completed by Claude B. Barton and F. Eugene Barton, associated architects, for a $15,000 country home in Happy Valley, Contra Costa County, for Dr. Leo P. Musser of Oakland.

HILLSBOROUGH RESIDENCE

Willis Polk & Company, 77 Pine Street, San Francisco, have awarded a contract to A. F. Mattock of San Francisco for the construction of a two story and basement frame and stucco residence in Hillsborough, San Mateo County, for E. J. Arkush, at an approximate cost of $40,000.

ADDITION TO MAUSOLEUM

Will P. Day has completed plans for an addition to the Mountain View Mausoleum at the terminus of Piedmont Avenue, Oakland. The improvements are estimated to cost $100,000.

CONCRETE SERVICE STATION

Dodge A. Reidy, Pacific Building, San Francisco, has prepared plans for a reinforced concrete service station which the Gilmore Oil Company will build at Van Ness Avenue and Howard Street, San Francisco. The cost is $12,000.

COUNCIL MEETS ARCHITECTS

The Producers' Council Club of Northern California, affiliated with the American Institute of Architects, held its monthly meeting Monday noon, March 28th, at the Commercial Club in San Francisco. The speaker was Steele L. Winterer, representative of a nationally known cork company. Architects of the Bay region joined the Council members at this meeting.

The Producers' Council, composed of manufacturers of national character, is affiliated with the American Institute of Architects, its object being to further the highest ideals in architecture, building construction and equipment.

The new executive committee of the Producers' Council Club of Northern California is as follows:

George R. Kingsland, Otis Elevator Company, Governor.

B. F. Blair, Standard Sanitary Equipment, Vice-Governor.

Steele Winterer, Armstrong Cork Company, Secretary-Treasurer.

G. T. Piersol, American Brass Company, Chairman, Membership Committee.

W. H. Graham, Johns-Manville Company, Chairman, Entertainment Committee.

H. M. Howard, International Nickel Company, Chairman, Program Committee.

Perry Olsen, The Sisalkraft Company, Chairman, Publicity Committee.

Henry H. Gutterson is Preisdent of the Northern California Chapter of the American Institute of Architects and Harry M. Michelson is the A. I. A. representative on the Producers' Council.

PERSONALS

GLENN E. MILLER, architect, announces the removal of his office to 202 Pacific Southwest Building, Long Beach, California.

PETER FICKER has moved his office from 301 First National Bank Building, Pomona, to 763 East Holt Avenue, Pomona.

CYRIL BENNETT of Pasadena has been elected a director of the First Trust and Savings Bank of Pasadena. Mr. Bennett will be director of the Tournament of Roses parade for 1933.

EXHIBITS SKETCHES

Angelo Hewetson, architect, of Alameda, recently had a public exhibition of sketches of California birds, together with sketches of many of the old buildings of the Monterey peninsula, in the Hotel Alameda.

HARRY L. PIERCE and CLINTON NOURSE have moved from 700 Western Mutual Life Bldg. to 521 Black Building, Los Angeles.

ARCHITECT'S MAUSOLEUMS ILLUSTRATED

"Through the Ages," published in the interest of the marble industry, has a number of attractive pictures of California mausoleums in its March number. St. Mary's mausoleum, Sacramento, Evergreen mausoleum, Oakland, and Cypress Lawn columborium, San Francisco, all designed by B. J. S. Cahill, architect, are shown, as is also the new Catacombs at Cypress Lawn, San Francisco.

ARCHITECTS MEET IN LOS ANGELES

Southern California Chapter, American Institute of Architects, held a joint meeting with members of the Southern Section, State Association of California Architects, at the Elks Club, Los Angeles, Monday evening, April 11. Northern architects, members of the State Board of Architectural Examiners and the board of directors of the State Association, holding their semi-annual meeting in Los Angeles, were guests of the Chapter.

BETTER HOMES EXHIBIT

An architectural exhibit is being shown by the Municipal Art Commission, third flood, city hall, Los Angeles. It comprises prize-winning designs in the Better Homes of Amcrica contest recently held in the East. Architects represented are H. Roy Kelley, Winchton L. Risley and Arthur Hutchason, all of Los Angeles. This is the first architectural exhibit of the Art Commission and will continue for some time.

W. J. WILKINSON

Stricken by a heart attack while awaiting a street car in Oakland, Wm. J. Wilkinson, 60, architect of Oakland, died before medical aid could be summoned, March 30. Mr. Wilkinson was a native of Kansas and had lived in Oakland for thirty years where he designed many apartment buildings and schools. For several years he was associated with a San Francisco firm of architects.

ENGINEER PROMOTED

W. H. Kirkbride, for 12 years engineer of maintenance of way and structures for the Southern Pacific Company, has been appointed chief engineer of the system to succeed the late George W. Boschke.

W. M. Jaekle, assistant engineer of maintenance of way and structures since 1918, becomes head of the maintenance department.

LIC LIBRARY

QUALIFICATIONS FOR CHURCH ARCHITECTS

The Bureau of Architecture of the Methodist Episcopal Church is interested in assembling a list of architects to be suggested for consideration for church work. A request addressed to the director of this bureau, Rev. E. M. Conover, 1701 Arch Street, Philadelphia or 740 Rush Street, Chicago, will secure a blank that may be used by architects, who wish their names on such a list, in representing their qualifications for modern church planning and designing. Ten cents should be enclosed with the request for the blank and only architects who have practiced at least five years should apply.

Among the questions on the application blank are the following:

1. Names and locations of churches for which you have rendered the architectural service.
2. What questions or unusual conditions were encountered in any case where the results in completed buildings were not in your opinion, of the best?
3. Enclose photograph and copy of the preliminary plans or working drawings of what you consider your best church accomplishment.
4. What religious ideals do you undertake to express in church architecture?
5. Are you a member of the American Institute of Architects?
6. Of what church are you a member?
7. In what active church work have you participated?
8. Mention activities you have engaged in or studies made to indicate your knowledge of the program, activities and objectives of the modern Protestant church?
9. Data regarding your architectural education and your travels.

Mr. Conover makes it clear that the Methodist Episcopal Bureau has no authority to appoint architects (although the Methodist Episcopal Church is a connected organization rather than a group of independent organizations) for local churches, but his office is called upon to recommend architects. This denomination has 25,000 church buildings in the United States, and many in forty foreign countries. This does not include the Methodist Episcopal Church South nor other Methodist groups. Mr. Conover says not five per cent of the Methodist Episcopal church buildings are suited to the program of work to which the church is now committed.

COMMUNITY CENTER BUILDING

Plans have been completed for the new Jewish Community Center to be erected at California Street and Presidio Avenue, San Francisco, at a cost of $650,000.

Sidney M. Ehrman, chairman of the Community Center Committee referring to the taking of bids at this time, said:

"The construction of the Jewish Community Center will put hundreds of men to work for a period of several months. This is the most opportune time for building.

"The plans call for a two-story and basement structure, of Mediterranean type of architecture, with the main entrance on California street.

"This building contains a gymnasium, swimming pool, handball courts, exercise room, separate locker rooms for men, women and children; a library, kitchen, banquet hall, executive offices for the various Jewish organizations, and one of the finest equipped little theaters in the West."

EDWARDS NAMED CONSULTANT

William A. Edwards, architect, of Santa Barbara, has been selected to advise the State Division of Architecture on plans for the proposed new state teachers college in Santa Barbara. The contract provides that Mr. Edwards shall collaborate with Ralph Stevens, landscape artist; L. Deming Tilton, executive secretary of the Santa Barbara planning commission; representatives of the Associated Architects of Santa Barbara, city officials, civic bodies and the State Division of Architecture, while the master plan and exterior designs for the college are being drawn.

FOR MORE ATTRACTIVE HIGHWAYS

More than twenty-five gas stations and hot dog stands have entered the Hillsborough Garden Club's highway beautification contest, which began April 15, with a jury headed by James H. Mitchel, architect.

The contest will run until December 31, at which time the stations and stands showing greatest improvement in landscape, signs and general appearance will be given prizes and motorists will be encouraged to patronize these stations.

Mrs. Laurence I. Scott is president of the Garden Club.

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(Organized 1857)

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STEEL BRIDGE DESIGN

Ten students out of one hundred eleven contestants have been selected to compete for the annual award offered by the American Institute of Steel Construction for the most beautiful steel bridge design. A jury of nationally-known architects and engineers have selected the ten best and asked the students to submit finished drawings to the Institute not later than May 2nd.

The students who will compete in the final judgment include two who are studying engineering: Ojus Malphurs of the University of Florida, and A. Lyall House of Montana State College. The remaining eight are all studying architecture. They are: Homer R. Truesdale of the Pennsylvania State College; Pierre A. Bezy of Columbia University; D. E. Campanella of Columbia University; E. M. Soniat of Columbia University; Herman Charles Light of Ohio State University; Leslie E. McCullough of Iowa State College; Boris R. Leven of University of Southern California, and Edward S. Okubo of University of Southern California.

Students from twenty-one colleges made entries in the competition this year. The jury, which will meet again on May 5 to select the best from the finished ten designs, consists of Jay Downer, chief engineer of the Westchester County Park Commission, New York; Dr. D. B. Steinman, consulting engineer, New York; Harvey Wiley Corbett, architect, New York; Ely Jacques Kahn, architect, New York, and Russell F. Whitehead, editor of Pencil Points.

WINS FIRST SOVIET PRIZE

First prize in the international competition for the Palace of Soviets was shared by Hector O. Hamilton of East Orange, New Jersey, with two Russian architects, I. V. Imoltovsky and B. M. Iofan. Each will receive 12,000 rubles (nominally $6,000). Two other American architects, Albert Kastner and Oscar Stonorov, shared second prize, amounting to 5,000 rubles each, with four European architects.

Of the 272 projects submitted, 14 were from the United States; among them designs by Joseph Urban and Thomas W. Lamb, who with Le Corbusier, Perrer, Mendelsohn, Gropius, Poeliz, and Brazini, had been retained by the Soviet government as competitors.

The prize winning design by Mr. Hamilton, in accordance with the specifications of the program, provides for two huge auditoriums, in a building that is 1,400 feet long and 600 feet wide. The larger of the two auditoriums, which has a seating capacity of 15,000 and standing room for an additional 14,000, is to be used for mass meetings, mass pageants, exhibitions, and similar exhibitions

in which the audience may be permitted to engage. The smaller auditorium, seating 5,000, is for conferences, and congresses, with suitable arrangements for delegates' desks. Included also in the plans are four other assembly halls, several lobbies, the largest to accommodate 14,000, a library, and executive offices for thousands of government workers. The Palace will be equipped with a powerful radio station, a restaurant seating 4,000 people, and eight smaller restaurants.

INTERESTING LECTURE

"Architectural Journeys in Sweden" was the subject of an illustrated lecture by Harlan Thomas, head of the Architectural Department at the University of Washington, at the March 3 meeting of Washington Chapter, American Institute of Architects. The meeting was held in the studio of Arthur L. Loveless, 711 Broadway North, Seattle. President J. Lister Holmes has appointed the following standing committees for the year: Civic design, Lance E. Gowen; competitions, William R. Grant; education, Carl F. Gould; exhibitions, George Wellington Stoddard; legislation, John Graham; Institute affairs, Roland E. Borhek; ordinances, Frederick V. Lockman; professional practice, Robert F. McClelland; public information, Victor N. J. Jones; ways and means, B. Marcus Priteca.

Special committee chairmen are: Building industry contact, Harlan Thomas; city planning, Charles H. Alden; craftsmanship, Arthur L. Loveless; domestic architecture, William J. Bain; lumber industry contact, J. Lister Holmes; membership, A. M. Young; program, Donald Thomas; honor awards, Albert M. Allen; Chapter Bulletin, Charles H. Alden.

HOSPITAL COMPLETED

Hollis Johnson, architect, of Portland, has realized a new conception of a hospital in the English Country house designed for the Portland Medical Clinic. The structure was recently completed and is situated on Marquam Hill.

INSTITUTE FOR ARCHITECTS

The annual institute for Architects was held at Pullman, Washington, February 25 and 26, and in Spokane, February 27 under the auspices of the Department of Architectural Engineering, State College of Washington.

The Institute opened at Pullman on the afternoon of February 25 with some individual conferences followed by an address on Stained Glass by Harold C. Whitehouse, A. I. A., of Spokane, President of the Spokane Art Association.

Mr. Whitehouse traced the development of the art of stained glass as a part of Gothic architecture, describing the method of manufacture which is practically the same today as in the Middle ages. It continues to be essentially hand made. The history of the art through the Gothic period to the Renaissance was described beginning with the late eleventh and early twelfth centuries during which the character was Byzantine and essentially decorative, through the twelfth century when the art was developed to its greatest perfection. Beginning with the thirteenth century there was a gradual decline, the forsaking of the earlier principles of pure decoration for an ever-increasing interest in pictorial effect and realism.

This decline continued until the seventeenth and eighteenth centuries when there was a period of complete decadence in the craft, translucence being sacrificed to painting and the pictures becoming more obvious than the glass. During the last thirty years the art of stained glass has experienced a great revival and is destined to again achieve its rightful place as one of the noblest of the arts.

The speakers at the next day's session were J. Lister Holmes of Seattle, President Washington State Chapter, A. I. A., and George B. Herington of Portland.

Mr. Holmes, with the subject of Domestic Architecture, referred to the building situation generally, as showing, in common with other productive enterprises, an inability to absorb past production. Evidence appeared to show that stim-

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*Appears alternate months

ulation in the next year or two will have to germinate in home construction.

Mr. Herington spoke on the Economics and Administration of Construction and described in an interesting and instructive manner the various types and methods of letting contracts for construction work.

The day's program concluded with a banquet at the Commons, at which informal remarks were made by Mr. Holmes, Mr. Herington and others.

Saturday, February 27, the third day session opened at the Spokane Hotel, Spokane, with registration, introduction by the Chairman, Professor Stanley A. Smith, and a view of the exhibits under the direction of Max Barth, instructor in Architectural Engineering at the State College.

The first address was on recent developments in the roofing of large areas by Professor M. K. Snyder, head of the Department of Civil Engineering of the State College.

In discussing this subject Professor Snyder mentioned two types of construction — the two-hinge, archrib type, already known, and a newer Lamella type.

The arch-rib construction is essentially one of arch-ribs having a constant cross section, the component units of which the arch ring is composed being joined together in such a manner as to give uniform strength. The arch-ribs are placed in parallel series upon which the roof is supported by purlins. Roof spans of 200 feet have been built with this type of construction.

The Lamella, also a two-hinged arch type, differs from the arch-rib in being a weaving together of material to form a continuous supporting structure. The units are so joined that they resemble a series of diamond shaped openings, the size of the units depending on the span. Acoustics are good because Lamellas serve to absorb the echo.

This was followed by an address on Electric Lighting by Professor Harry F. Lickey of the Department of Electrical Engineering of the State College.

Professor Weller of the Department of Architectural Engineering of the State College gave an interesting address on Modern Shop Fronts, calling attention to the transition from the former classical construction of the 90's to the recent universal demand for the beautiful and more fitting surroundings for the display and sale of the attractive merchandise of today. Mr. Weller described the varied intensive demands of the modern shop front, its function as an advertisement as well as to be attractive and the need for adequate display and protection. The lighting problem is an important factor and proper ventilation is also necessary as a protection to the merchandise.

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Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This Month: New wage scale being enforced by organized labor. Cement and metal lath higher.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $28 to $34 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $40.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $1.90 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.25 per bbl.
Cement (f.o.b. Job, Oak.) $1.80 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.85 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$105.00 M ft.
1 1-15x2¼" T & G Maple	135.00 M ft.
⅞x3½ sq. edge Maple	122.50 M ft.

	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.50 base.

Millwork—
O. P. $72.50 per 1000. R. W., $76.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

NOTE — Above quotations are for 7/8 inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 85c per gal, in cans and *9c per gal. in drums.
Raw Linseed Oil—71c gal. in bbls.
Boiled Linseed Oil—72c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	12¾c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

¾-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rehate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$74 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $65 to $70 ton cost of steel, average building, $70.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.

Note—Consult with agents.

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caisson workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

LE BRUN SCHOLARSHIP AWARD

William H. Scheick, instructor in the School of Architecture, University of Illinois, has been awarded the 1932 Le Brun traveling scholarship of $1400 for his design of a monumental concert hall in a city park.

Honorable mention went to Harry Widman, of 2513 South Rimpau Boulevard, Los Angeles.

SAN FRANCISCO APARTMENTS

Plans have been completed by William C. Ambrose, architect, 605 Market Street, San Francisco, for a six story and basement steel frame and reinforced concrete apartment building to be erected at 25th and Bartlett Streets, San Francisco, for F. W. Hanchett. The estimated cost is $150,000.

TWO SAN FRANCISCO RESIDENCES

Earle J. Osborne, architect, 251 Kearny Street, San Francisco, has recently awarded contracts for a residence in St. Francis Wood for Dr. Phillip Arnot and additions to the J. M. Mannon home in Presidio Terrace, San Francisco, the improvements totalling about $20,000.

TIRE SERVICE BUILDING

The Goodyear Tire and Rubber Company will spend $60,000 in the erection of a two story reinforced concrete sales and service building at 11th and Mission Streets, San Francisco. The plans are being prepared by the company's engineering department in Los Angeles.

SACRAMENTO JUNIOR HIGH

Plans have been completed by William E. Coffmann, architect, Forum Building, Sacramento, for a new Junior High School building for which bonds have been sold to the amount of $280,000.

BERKELEY RESIDENCE

Dr. Claud H. Church has had plans prepared by W. H. Ratcliff, Jr., architect, of Berkeley, for a two story frame and stucco residence on Claremont Avenue in the College City.

WM. C. ZIMMERMAN

William Carbys Zimmerman, 74, former Illinois State Architect, died at his winter home at La Jolla, California, April 10th, after a month's illness.

OIL BURNER COMPANY CLEARED

Architects, engineers and contractors, and the building industry in general, will be interested in the recent decision of a jury in Superior Judge Shortall's court in San Francisco, clearing the S. T. Johnson Company of a charge of dealing in defective oil burners. The company was sued by James P. Leslie, janitor in the Alta Plaza Apartments, 2500 Steiner Street, San Francisco, who claimed that an oil burner installed by the Johnson Company in the apartment house, exploded and set fire to his clothing, causing him to be badly burned. The Construction Indemnity Company was a joint complainant in the case, alleging that it had paid $7000 in hospital and physicians' expenses for Leslie. The plaintiffs attempted to show that a defective automatic oil burner had been installed in the boiler room by the Johnson Company and that it was responsible for the accident.

The defendant showed, however, that the oil burning apparatus was intact after the accident; a condition which would not have been possible had there been an explosion; that a can of oil had been removed from the engine room following the fire and that some of the contents of the can had been used by the janitor for cleaning purposes.

Expert testimony was presented in behalf of the Johnson Company by William Ray, former president of the Ray Automatic Oil Burner Company, Thomas B. Hunter, consulting engineer to the University of California and Stanford, and experts from the California Institute of Technology.

The jury brought in its verdict after being out only 20 minutes, absolving the company from all blame.

ELECT OFFICERS FOR 1932

The annual meeting of the California State Board of Architectural Examiners was held in Los Angeles, April 11 and 12, and officers were elected for 1932 as follows:

Southern Division—A. M. Edelman, Los Angeles, president, and Harold C. Chambers, Los Angeles, secretary-treasurer.

Northern Division—Albert J. Evers, San Francisco, president; C. J. Ryland, Monterey and Fresno, secretary-treasurer.

State Board—Albert J. Evers, president; A. M. Edelman, vice-president; H. C. Chambers, secretary; C. J. Ryland, assistant secretary.

How the Architects helped Cabot's Stains to win National Recognition

THE FIRST exterior stains ever made were invented in 1882 by Samuel Cabot. These were Cabot's Creosote Shingle and Wood Stains. There had been a long dallying with the mansard roof and jig-saw decorations. It was time for a change and the merits of the old New England shingled house were again beginning to be recognized. The new stains so completely suited this style of architecture that they greatly increased its popularity.

Exterior stains with a creosote base were such a novelty that painters and dealers could not see their value and there was much difficulty in getting them introduced.

Then Samuel Cabot took his stains directly to the architects. At the same time he made their merits known to consumers through advertising. Their artistic qualities and wood-preserving value were immediately recognized by the architects who began to specify them. The demand produced by the architects' backing and the advertising was soon felt by the dealers, who stocked them, and by the painters, who began to use them.

The architects assured the success of Cabot's Creosote Shingle and Wood Stains.

Adobe House, Pasadena, California. Roof of 3/4" to 1" x 25" Hand Split Red Cedar tapered shakes machine-dipped in three shades (brown) of Cabot's Creosote Shingle and Wood Stains.

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Creosote Shingle and Wood
Stains

Made by the makers of Cabot's Collopakes and Cabot's "Quilt"

If you wish more information, this coupon will bring it.

Samuel Cabot Inc. 141 Milk Street, Boston, Mass.

Gentlemen: Please send me your Color Card and full information on Cabot's Creosote Shingle and Wood Stains.

Name .....

Address ..... AE—4-32

INSTITUTE FOR ARCHITECTS

[Continued from Page 66]

Re-assembling after luncheon, Mr. Holmes, with approprite words, welcomed to honorary membership in the Washington State Chapter, Eric A. Johnston, who had been elected in recognition of his valuable service to the profession; and craftsmanship certificates were presented to Walter J. Lauer and Arthur Bush, who had been selected for these awards by the Chapter.

For the remainder of the program, Mr. Holmes showed some interesting illustrations of domestic architecture and explained the Building and Allied Industries movement in Seattle to promote the construction and remodelling of homes.

TACOMA SOCIETY OF ARCHITECTS

Good attendance marks the weekly meetings of of the Tacoma Society of Architects, Ernest T. Mock, president. Recent programs:

March 7—Frederick Heath spoke on "The World's Fair at Chicago in 1933 and Its Effect on American Architecture."

February 29—Harlan Thomas, head of department of architecture, University of Washington, gave illustrated lecture on "Architectural Adventure in Sweden."

February 15—Ladies Day. Mrs. George Bullard exhibit and discussed water colors and sketches of Santa Fe in New Mexico.

March 14, the Society entertained the officers of the Washington State Chapter, A.I.A. President Holmes outlined his policies for the year, Mr. Thomas spoke of the work at the University of Washington, and Mr. Stoddard of the coming exhibit of small house architecture to be held in Seattle in May, requesting the co-operation of the Tacoma architects. An interesting exhibit of sketches of the architecture of Florence and Venice by Ralph Bishop was displayed and given high commendation.

ARCHITECT ADDRESSES ENGINEERS

Stiles O. Clements of the architectural firm of Morgan, Walls & Clements, Los Angeles, was the principal speaker at the meeting of the Structural Engineers' Association at the University Club, Los Angeles, Wednesday evening, April 6. Mr. Clements gave an illuminating talk on textural surfaces for concrete walls of buildings. He has given special study to treatment of concrete surfaces for a number of years with results which marked notable advances in the art. Mr. Clements illustrated his talk with lantern slide views of numerous structures designed by his firm.

SACRAMENTO CONTRACTOR INJURED

George Hudnutt, building contractor of Sacramento, met with a serious automobile accident April 5 three miles east of Vacaville. He suffered a fractured skull.

SECURES DEMING PUMP AGENCY

Effective at once, the Deming Co., of Salem, Ohio, announces the appointment of Simonds Machinery Co. as distributors of Deming pumps and water systems. This pioneer California pump organization is known to the Western building trade through its many years operation in San Francisco and Los Angeles. An extensive stock of Deming pumps and parts will be carried in both Simonds locations in these cities, where the company also maintains machine shops and complete service facilities, according to Ray Simonds, founder and active head of the business.

The Deming line includes rotary pumps, single and double acting piston pumps, single and multi-stage centrifugal pumps, deep well pumping heads, and complete water systems. Other pump lines which the Simonds organization will continue to distribute and service include American-Marsh, Pomona, Kewanee, Barton, Ames, and Perfection.

JOINT MEETING OF ARCHITECTS

A joint meeting of the Southern California Chapter, A. I. A., and the State Association of California Architects, was held in Los Angeles, April 11. Colonel C. W. Huntington, State Registrar of Contractors, Albert J. Evers of San Francisco, Fred H. Meyer, regional director, and City Manager James S. Dean of Sacramento, were among the speakers.

Gordon B. Kaufman, president of Southern California Chapter, American Institute of Architects, acted as chairman of the meeting and Robert H. Orr, vice-president of the State Association of California Architects, acted as toastmaster. A. M. Edelman acted as secretary and W. I. Garren of San Francisco, as treasurer.

OAKLAND ARCHITECTS BUSY

The office of Ray F. Keefer and A. L. Herberger, 770 Wesley Avenue, Oakland, reports being busy on new residence designs including a house in Trestle Glen Road for F. Mola; a residence on Fairlawn Avenue for Gerald S. Mushet and a two story flat building on Manila Avenue for W. J. Freeling, the latter to cost $10,000.

PROVISIONAL CERTIFICATE

At the regular meeting of the California State Board of Architectural Examiners, Northern District, held March 29th, the following was granted a Provisional Certificate authorizing him to practice architecture in the State of California: Wilace Elbert Manhart, 3327 Cutter Way, Sacramento.

Dallas Gas Company Building
Dallas, Texas

At the present time the Dallas Gas Company Building is 13 stories high. Provision has been made for an ultimate height of 23 stories, as shown above.

Architects: Lange and Witchell
Structural Engineers: Gardner and Howe
General Contractors: Jopling Construction Company

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CLAY IN PORTLAND CEMENT

A recent discovery made by J. M. Evans of the Associated Oil Company's research department and which has just been adopted by one of the large Pacific Coast Cement companies, may prove of great value to building construction, in addition to affording a market for what has hitherto been a waste product in the oil industry. The new discovery utilizes the spent clay used in refining.

In the manufacture of petroleum products such as gasoline, kerosene and lubricating oils it has been the practice for many years to decolorize these products and purify them by a process known as contact filtration. In this process a chemically reactive clay is ground to the fineness of flour and mixed with the oil at elevated temperatures. The clay is then filtered out of the oil and carries with it the resinous bodies which have caused the dark color. This clay, after use, was a waste product at the refinery and it was difficult to dispose of it. It was used to pack around pipe lines to prevent corrosion or to lay a base under steel tanks giving a water-proof foundation. However, a great deal of it had to be dumped and the expense of disposal was often quite a sum to be charged against the finished petroleum product.

Mr. Evans' discovery has shown that a small percentage of this clay, in the neighborhood of 3 to 5%, will greatly improve Portland Cement. The spent clay is ground into the cement at the time of manufacture and produces a Portland Cement having greater plasticity as well as water-proof properties and increased strength. The plasticity makes it possible to spread more easily and get a smoother finish. The water-proofing is valuable in stucco work, in foundations and under any conditions of moisture. When increased tensile and compressive strength can also be provided, an ideal all-purpose product is the result. Thus the disposal of a product which was formerly a waste and a burden in one industry has resulted in an improved product from another industry.

PASSING OF FAMOUS BUILDER

Colonel W. A. Starrett, who died March 25 at his home in Madison, N. J. was one of the best known figures in the building industry. He was a brother of Mrs. William S. Dinwiddie and Mrs. Frederick Whitton of Berkeley.

Colonel Starrett was president of the Starrett Corporation and a member of the firm of Starrett Brothers and Eken which erected the Empire State Building, New York, tallest structure in the world; the 70-story Bank of Manhattan Company

Building on Wall Street, and numerous other large structures.

Colonel Starrett, who was 55 years of age, was born in Kansas, the son of a Presbyterian minister. There were five sons in the family and two daughters, the boys all becoming builders or architects and the two girls marrying builders. Colonel Starrett was a graduate in civil engineering from the University of Michigan and had spent his business life in the building field. During the World War, as Major of Engineers, he took over the post of Chairman of the War Industries Board, charged with handling the army's war construction program, including building of cantonments, hospitals, army bases and all other army construction for war purposes in the country.

In addition to his building activities, Colonel Starrett was widely known as a writer and speaker. He was a member of President Hoover's Organization on Unemployment Relief, of the President's Committee on Large Scale Building Operations and was a territorial director of Harvey D. Gibson's New York Emergency Committee, his division leading in the amount of money raised. He was also President of the Associated General Contractors of America.

Besides the two sisters, Colonel Starrett is survived by his wife, a son and a daughter, and a brother Paul Starrett. Several of his nephews have already become well known as architects or builders.

A CONDITION, NOT A THEORY

The building industry is faced with a condition and not a theory. During the last two years the downward revision of wages and salaries has practically engulfed everybody making their livlihood either by mental or physical efforts. The cost of materials entering into building has shown a decided drop. It is not unreasonable to assume that if labor costs are also adjusted a marked improvement would result. In a number of large cities mechanics have voluntarily accepted cuts anticipating their action would pep up building, and in several of these cities slight building improvement is shown, and there is brighter building prospects in 1932 due to these wage adjustments.—*A. G. C. Bulletin,* Salt Lake City, Utah.

ON DISPLAY IN WASHINGTON

The work of Whitehouse, Stanton and Church, architects, of Portland, Oregon, is represented by three out of 100 photographs chosen for exhibition at the George Washington Bi-Centennial celebration, Washington, D. C. The subjects are the Temple Beth Israel, the University Club, and the residence of Elizabeth Clark, all in Portland. The exhibit represents the work of the graduates of the American Academy in Rome.

Sir Frnncis Droke Apartment, Los Angeles, Calif.; Consulting Architect: A. I. Rouda; Asst. Structural Eng.: Adnm O. Kneeling; Contractor: Parker Construction Company

When you specify Fenestra Fenwrought Casements you give your clients the following modern window advantages: Finger-touch operation, outside cleaning of glass from the inside, more daylight and fresh air, extraordinary weathertightness, and fire safety. And you give your clients the outstanding beauty of small, sparkling panes and fine hardware appointments. See Sweet's Architectural Catalogs.

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JUDICIOUS ADVERTISING MEANS SUCCESS

The value of sane, extensive advertising and the manner in which it will assist in bringing business back to normal was forcefully expressed by Arthur Brisbane, columnist, in an address at the foreign trade luncheon in Los Angeles recently. He said:

"The business man who does not talk to his customers through newspapers and magazines is lagging behind.

"As a newspaper man I am deeply interested in advertising. The problem of life is success. The secret of success is the power to convince.

"The secret of success in industry and trade is to convince the public that your commodity is the best.

"Advertising is immensely important, and more so now than ever, as it is the engine to lift us out of this crisis into prosperity. The man who can show that he has advertising ideas better than those of other men has a better chance than ever. We have no better chance of success than in periods of discouragement."

DIRECTORY OF CONTRACTORS

A directory of contractors who have filed their records with the Bureau of Contract Information, Inc., Securities Building, Washington, D. C., has just been issued by the Bureau. It contains the names of about 4300 individuals, firms and corporations engaged in the contracting business who have satisfactorily answered questionnaires as to their experience in construction work. About 240 California contractors are listed, the greater proportion of whom are in Southern California. The Bureau of Contract Information is a non-profit-making cooperative, fact-finding institution, organized to cooperate with those responsible in the award of construction contracts so that the public may be assured of proper performance of public and private construction work.

SWIMMING POOLS

The Portland Cement Association has issued two folders on swimming pools to encourage construction in various communities. The first folder, "How Can We Get A Swimming Pool?", describes methods of organizing a public interest campaign to promote a pool and shows a number of them that have recently been constructed in various parts of the country. The Fleischacker pool in San Francisco is illustrated. The second, folder, "These Towns Have Swimming Pools—So Can Yours," shows how certain communities have financed their pools and cites the plans used

as examples that may be followed in other localities for organizing campaigns to obtain construction funds. These brochures will be sent free upon request to any persons interested in receiving them.

UNSIGHTLY HIGHWAY APPROACHES

Colonel Charles B. Wing, chief of the Division of Parks of the California State Park Commission, speaking before the section on architecture at the Commonwealth Club, San Francisco, brought out the following points regarding roadside beautification on highways:

Highway approaches to our cities are becoming as unsightly as railroad approaches—regulation of stands and advertising should be undertaken—highway engineers of past ten years have had to face serious problems in meeting demand for wide highways suitable for high speed—attention has been fixed on practical problems to exclusion of aesthetic—efforts of automobile industry and automobile clubs have been to increase speed on highways—has had bad effect on scenic routes and may eventually destroy attraction of scenic places—serious study should be given to subject of upper limit to possible speeds.

Colonel Wing recommended that the Commonwealth Club could do a very important work in studying highway beautification, location, construction and maintenance. He suggested the enactment of legislation requiring services of landscape architect as well as road engineer; also removal and replacement of top soil in cuts and systematic planting to cover scars; and purchase of wide right-of-way to permit of gradual slopes which could be planted. The speaker also suggested that money from the gasoline tax funds might be used for the purchase of strips bordering highways in order to preserve scenic beauty.

VERBAL CONTRACT VALID

A verbal contract made in a telephone conversation has been ruled binding by Superior Judge Wood in Oakland, who awarded J. H. Fitzmaurice $3100 in a suit against A. F. Hanson. Fitzmaurice, a building contractor, alleged that Hanson, also a builder and chief contractor for the construction of the Hayward Veterans' Memorial Building, made him a telephonic offer of certain labor on that project on March 3, 1931. Fitzmaurice said that he accepted the offer and regarded it as binding, but a written contract which was to have been later submitted was never forwarded him and that another contractor was awarded the work.

A Haws model to suit every condition where trouble free drinking fountain service is required. Play safe in specifying a Haws model for public buildings, schools, theaters, hotels, play grounds and parks. Write for catalog. . .

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LOOKS LIKE MARBLE, COSTS LESS THAN MARBLE. REQUIRES NO POLISHING AFTER INSTALLATION. AN OUTSTANDING NEW DECORATIVE BUILDING MATERIAL THAT YOU NEED ONLY SEE TO BE CONVINCED OF ITS BEAUTY AND SERVICEABILITY. . . . .

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Life insurance is good—a man should take out all he can afford. But don't stop there. Remember—life insurance provides money—but *not* the ability to manage it.

The Life Insurance Trust fills this lack — *completes the circle of protection.* It is an arrangement between you and the bank providing for the collection and investment of your life insurance estate, the payment of income to your dependents, and the final disbursement of principal, all exactly as you direct. *Call or write for details.*

TRUST DEPARTMENT

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SAN FRANCISCO

EXTRAS FOR BUILDINGS SHOULD BE IN WRITING

"Much of the misunderstanding among contractors, architects and owners as to their respective rights, arises from the fact that no two cases are exactly alike, and that each must stand on its own particular facts," said Judge L. J. Palda, Jr., of Minot, N. D., discussing the subject of agreements, written and verbal, at the recent annual meeting of the Associated Contractors of North Dakota. "In a general way," he continued, "the architect is looked upon by the courts as a mutual agent of the builder and proprietor for the purpose of construing the plans and specifications. So that, in the first instance, the architect acts merely as a mediator or arbitrator between these two factors when a dispute arises.

"For purposes of convenience, provisions are now inserted into contracts stating that extras can be ordered by the architect upon written order, and to this extent, the architect is made the agent of the proprietor. When this clause was inserted, the architect's powers, so far as binding the proprietor were concerned, were extended, and if he complied with the terms of the contract provisions and gave written orders for extras, such written orders have been recognized by the courts and the proprietor was bound thereby. However, the courts have repeatedly held that unless these orders for extras were given in writing signed by the architect, as provided in the contract, the contractor or builder, could not recover for the extra work. Then other contracts provided that the architect could by written order call for extra work and alterations.

"These have also been held binding upon the proprietor if the alterations were of a slight character and not changing the general specifications and plans, and if made in such manner as is provided by the contract. So that you will readily see that each contract must stand on its own provisions, and if, by the terms thereof, the architect is made the agent of the proprietor, and issues orders for extras, or slight alterations, such proprietor will be bound thereby; but, should the architect fail to make the orders in the manner prescribed in the contract, for instance, if he gave his orders orally, and they were not in some way acquiesced in or ratified by the proprietor, then the proprietor would not be bound. Under no circumstances can the architect issue a certificate waiving the express provisions of the contract or plans, without the consent of the proprietor.

"So, where the architect is merely given the right to construe plans, and he goes further against the protest, or without the consent, of the proprietor, and alters the plans, such alterations,

and the cost incident thereto, are not binding upon the proprietor, and a recovery by the builder for the same cannot be had. When all is said and done, the final analysis is that the architect has only such powers by way of alteration, extras, etc., as the positive terms of the contract grant him, and if he exceeds the provisions of the contract, and does so without the consent of the proprietor, then the proprietor is not bound.

"There is nothing mysterious about the construction given in any disputes that arise as between the builder, proprietor and architect; it is simply a matter of construing in each case the terms of the specific written contract in that particular case, and then an analysis of the question of consent, waiver, or ratification by the proprietor.

"You will find in analyzing the various cases decided by the courts that most of the dispute arises on the question of ratification, and consent or an estoppel so far as the proprietor is concerned. If it were not for these features creeping into litigation of this kind, the entire matter would be decided by the terms of the written contract, but, as I have stated, many times the proprietor consents or stands by at the time that the various orders for alterations or extras are given by the architect, and he is then bound by the same. The architect is never conceded the right to change the plans unless he is specifically authorized to do so by the proprietor, either in the written contract, or by way of ratification and consent.

"Much of your troubles in this connection would be wiped out if, in every instance, you required a written order by the architect, if the contract gives him that authority. Where the order contemplates or requires an altered plan, obtaining written consent thereto by the proprietor is necessary. So that, as a general proposition, your troubles are all of your own making. The wise contractor requires everything in writing from the architect, and every change of any consequence consented to by the proprietor. He then has no trouble because the contracts and contract forms used have been quite generally construed, and the terms thereof are specific and definite.

"If you leave your disputes to be proven by oral testimony, based on conversations with the proprietor, you are bound to have trouble, as minds do not usually view the conversation in the same light, and the memories of interested parties are liable to be very poor. It is then that the courts are called upon to settle your disputes, for which disputes, I could never find a justification except in the carelessness of the contractor."

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Every Foot of Reading Genuine Wrought Iron Pipe is positively and permanently identified by the Reading Spiral Knurled Mark. The name READING and the year of manufacture are also rolled in the metal on every length. Each Reading Nipple bears the Reading Knurled Mark for your positive identification.

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READING, PENNA.

San Francisco:
Balboa Building

Los Angeles:
Pacific Mutual Bldg.

NEW TYPE OF SUBURB

A new type of suburb, in which towering apartments will replace the mansions of great estates, is proposed by Electus D. Litchfield of the New York Chapter of the American Institute of Architects. Suburban beauty, he declares, is threatened by the invasion of city dwellers and an improved system of zoning is demanded.

Outside of every city, Mr. Litchfield says, there are residential properties which are eventually cut up into small lots or are covered with low closely built apartments, with the result that the original charm is almost entirely lost.

Cities, he urges, should take steps to retain the terrain in its original condition, and to promote its utilization intensively by the erecton of tall apartments with small ground coverage. Mr. Litchfield's plan, which has been submitted to the Committee on Zoning of the President's Home Building Conference, is the outcome of a study of the future development of the large estates at Riverdale-on-Hudson, N. Y.

"Their growth temporarily arrested, American cities have been given a breathing space in which they may well move to put their house in order," according to Mr. Litchfield. "Those which have not yet adopted a zoning plan should do so at this time, and those which are already zoned might well consider whether their system of zoning has possibilities of improvement. All of them might well consider suggestions for a new type of residential zoning.

"It is not intended that this new type shall take the place of the residential zone as usually provided for in our zoning plans; but that in certain districts the restrictions usual in residential districts shall be supplemented and modified so as to create a new kind of residential district.

"On the outskirts of all of our great cities, occupying often strategic points of beauty and accessibility, are found the well established homes of families of wealth and position. These are surrounded by fine lawns with handsome trees and shrubbery. As time goes on, the families die off, or move away; and the intensive development of the city pushes in and about these once proud estates.

"Sometimes they are located on main traffic arteries and expert town planning judgment is reluctantly forced to conclude that they must give way to business. Oftentimes they are so far from the main business center, or are in such large groups, that there is no compelling necessity for their inclusion in a business zone. What then shall be done with these old properties?

"Not only the original owners but the glory of the great houses have departed, and with the original owners, the social eminence of the district. Its usual fate is to be cut up into small

lots; its trees cut down.; and its lawns despoiled. Where once were places which helped to make the city beautiful, now is naught but ugliness.

"Sometimes these districts are zoned for apartment houses, which are allowed to cover from 30 to 80 per cent of the plot and are limited in height from two to four or even six or seven stories. Let us suppose that their location and transportation facilities are such that there will be a continuing demand for accommodations in apartment houses covering 60 per cent of the plot. It is obvious that the same population would be accommodated by a structure occupying 30 per cent of the area and double the number of stories in height; or by a building occupying 15 per cent of the area having four times the number of stories.

"If therefore, in zoning these old estates, the land coverage allowed for the buildings be made very small and the permitted height be correspondingly increased, it would be possible to maintain the unbuilt open land in much of its present sightly condition, with lawns and planting, so that they will become small parks about residential towers, and remain a continuing asset to the city.

"Where many of these estates are contiguous, a very wonderful new type of suburb will be created, with isolated residential towers surrounded by winding roads carried through valleys and over wooded hills, with their wonderful view, which in many cases determined the location of the original mansion, preserved for those who dwell in the towering apartments built on its site."

TRADE NOTES

In recent years many new uses have been discovered for glass. The Owens-Illinois Glass Company of Toledo has recently perfected a new glass product which is being offered to the building industry under the name of "Dustop." This is a "glass wool" which has been scientifically treated for use as a filtering medium. Each unit weighs but two pounds but it will absorb dust greatly in excess of its own weight and its economic price permits of replacement of the complete unit when dirty. The manufacturers claim it is 99% efficient in the removal of dust from the air. Descriptive literature covering specifications may be obtained on application to the manufacturer.

The use of ornamental iron work in the home has encouraged the J. G. Braun Company of New York to compile an attractive book of specifications and illustrations that should be of interest to architects and contractors. Copies may be obtained from the Braun-Steeples Company of San Francisco on request.

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REMEDY OFFERED FOR DEPRESSION

At the semi-annual convention of the California State Builders' Exchange in Bakersfield, March 18 and 19, resolutions were adopted urging the Federal and State governments "to use their influence to have the financial institutions resume the extension of credit to our business so that home building and general construction may proceed." Text of the resolution directed to President Hoover follows:

Whereas, the distressing conditions in the Building Industry have continued for three years and still continue, thus impoverishing our nation, and

Whereas, the Building Industry, the second largest in our nation, is practically at a stand-still today, and the great mass of skilled and unskilled workers engaged in the manufacture of materials and the erection of buildings are idle and,

Whereas, there is a tremendous sustained loss in investment and deterioriation of equipment. Therefore, be it

Resolved that the California State Builders' Exchange, Ltd., in convention, believe that this condition can be remedied and an immediate revival of business and employment follow if the Government use its influence to have the financial institutions resume the extension of credit to our business so that the home building and general construction may proceed; be it further

Resolved, that a copy of this resolution be sent to the President of our Nation, to Senators and Congressmen of California, to our Governor, requesting their immediate attention to this Resolution; also that copies be sent to the trade papers, magazines and the press.

Colonel Carlos W. Huntington, State Registrar of Contractors, in an address to the convention, stressed the need of greater cooperation on the part of local building organizations throughout the State in enforcement of the license law. A resolution commending the Department of Professional and Vocational Standards on its administration of the contractors license law was adopted.

Mano Zan, manager of the Los Angeles Builders' Exchange, as chairman, submitted a report from the committee on arbitration in which he recommended to the building industry of California the use of commercial arbitration as provided for by the California law of 1927 as a substitute for appeal to the civil courts.

The legislative committee, of which W. H. George of San Francisco is chairman, submitted the following recommendations:

1. That our legislative efforts be concentrated on but few issues, those directly affecting our industry, and considered the most important to it.

2. That consideration of the laws relating to

the financial structure of the industry is now our most important legislative subject, involving as it does lien rights and priorities, they in turn determining practices in construction-finance and credits.

3. That we gather the several interests concerned into conference, with the hope of composing their differences, in order that all may go with one accord to the next Legislature to obtain any necessary legislation.

4. That we first seek the good offices of the California Building Congress in our endeavors toward such unity of purpose, and toward obtaining legislative results from it.

5. That we actively assist the Construction Industries Joint Committee of California in their endeavors for the advancement of private initiative.

6. That we contact allied interests who make a practice of appearing at legislative sessions, for the purpose of cooperating in the resistance of unfavorable laws.

7. That each member Exchange closely contact the Senators and Assemblymen in its districts, each Exchange in the way suited to it, to the end that we may appear before acquaintances at least, when we contact Sacramento.

8. That each of such officials be made familiar with the following and similar facts: The composition of each Exchange as a cross-section of the industry in its community—manufacturers, dealers, general and specialty contractor; the extent of the employees of all these and their families, and their influence in civic affairs; the composition of the State Exchange with its 19 member Exchanges throughout the State, united to elevate the industry; the 23,000 licensed contractors of the State, and their various craft organizations, who look to the State Exchange as the coordinating body of the industry; the constant and ever widening contact throughout the whole State of the State Exchange and its member Exchanges with organizations of the professional elements, such as architects and engineers for the solution of common problems, and similar contact with civic organizations in the interest of efficiency in government affairs, etc.

9. That each member Exchange designate a political representative, acquainted with legislators, familiar with public methods, who will be subject to the call of the legislative committee.

10. That we endorse such revision of the Federal Bankruptcy Law as will minimize unduly severe losses to creditors, and as will correct abuses of the law.

11. That we favor revision of "anti-trust" laws as will remove impediments which prevent

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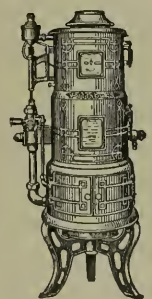

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industry from cooperatively purging itself of unscrupulous operators, who bring ruin to themselves, their creditors, their unright competitors, and who depress economic conditions throughout the field of their operations.

12. That we oppose all efforts to divert any revenues from gasoline taxation to any purpose other than construction, maintenance or improvement of highways.

13. That we do not now favor any amendments to the State Contractors License law.

14. That we favor reduction of compensation insurance rates commensurate with the lessened hazards provided by employers' safety work, and the removal of present bounty on employers' wilful neglect and disobedience of safety rules.

The report of the committee on industrial relations, submitted by Chairman H. L. Sweeney of Santa Barbara, suggested that compensation insurance rates should be fixed by an impartial board; also that vocational training should be studied by an impartial committee composed of an equal number of school authorities and employers who employ boys and girls.

The Exchange decided to hold its annual convention in Stockton.

FEATURES OF HOME LOAN BILL

Every community in the United States where homes have been built or are likely to be built is affected and should be interested in the Home Loan Bank bill now before the House of Representatives, writes Dudley F. Westler in the San Francisco Chronicle. Lack of funds for the financing and refinancing of the American home, called the backbone of the Nation, has created anxiety in the minds of millions of people in all walks of life throughout the country. Home owners have been aroused to the necessity for a remedy for existing conditions and through realty organizations and others affiliated are bringing pressure upon their congressional representatives to support the Hoover Home Loan Bank plan.

Latest advices from Washington indicate that proponents of the plan have rested their case as far as the House hearing is concerned on the measure that would establish twelve new banks for the sole purpose of discounting first mortgages on homes to financing institutions.

Real estate and building and loan interests have submitted a mass of testimony showing the need for the banks as permanent institutions since the hearing started March 16.

The real estate interests offered amendments to the bill and agreed to many of the changes asked by bankers, through General Nathan William Macchesney, nationally known Chicago lawyer,

life insurance counsel, and general counsel for the National Association of Real Estate Boards.

Desirable features claimed for the bill are that it will:

1—Facilitate better distribution of home financing funds throughout the country.

2—Create confidence in home financing institutions, thus encourage greater deposits in them.

3—Stabilize home financing institutions, prevent recurring emergencies.

4—Simplify the problem of junior financing by establishing sound basis of first mortgage financing.

The Association's recommendations that meet opposition as developed at the Senate hearing include:

1—Dividend participation for the Government's investment in the proposed system, which might amount to $150,000,000.

2—That bonds issued by the proposed banks bear some statement showing that they are not guaranteed by the Government. Several Senators and Representatives have stated that Federal Farm Land bonds have often been sold on the erroneous understanding that the Government guaranteed their payment.

The hearing reviewed amendments asked on behalf of the Ohio Bankers' Association by Thomas E. Monks, Cleveland, vice president of the Guardian Trust Company. The Real Estate Association conceded that most of these requested changes are fair, among which the following are the most important:

1—That banks and trust companies be admitted on a parity with building and loan associations and life insurance companies.

2—Admit representatives of agriculture and business to directorate of banks.

3—Raise the amount member institutions are permitted to borrow from 12 times to 20 times the total amount of their stock subscription.

4—Eliminate provision that would permit examination of the income tax and other returns of mortgagors whose mortgages are submitted for rediscount.

5—Restrict the sale of stock to new members after the banks are launched to par value or more.

STATE BOARD MEMBER

C. J. Ryland of Monterey has been officially appointed member of the California State Board of Architectural Examiners, Northern district, by Governor Rolph. He succeeds John J. Donovan of Oakland, term expired. John C. Austin of Los Angeles, President of the board in the Southern district, was reappointed. Mr. Ryland is a member of the firm of Swartz and Ryland of Fresno and has charge of the concern's Monterey office. Of late he has made his home in Monterey.

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LANDSCAPE ARCHITECTS ACTIVE

At a special meeting of members of the Pacific Coast Chapter of the American Society of Landscape Architects it was voted that

Whereas, the American Institute of Architects has called our attention to their belief that the Government should not set up extensive governmental bureaux to do creative work in the profession of the arts; and

Whereas we understand that the Federal Government is planning to greatly increase its architectural department to meet the emergency demand for public building activities now contemplated; and

Whereas increased growth of bureaux activities in the Government of the Nation, of the States, and of Counties and Cities in dealing with professional matters of art, such as Architecture, and Landscape Architecture, built up in time of emergency, are not easily reduced later and therefore may lead to wasteful expense, and

Whereas there now exist professional firms of ability in Architecture and Landscape Architecture in all important Cities of the Country, capable of producing variety, efficiency and beauty in such work, and

Whereas such firms can be retained by any governing body for any specific piece of work and the expense can thereby be limited to that particular work, without the

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need for placing them on permanent employment, and

Whereas it is believed that the setting up of such bureaux with their function as creative agencies is in contradiction to our American principle that the Government should not intrude itself into the realm of private business or professional activity where such private business or professional activity can be used to serve the public need, and

Wheras it is believed that the employment of various firms will lead to a higher expression of the arts, than can be produced by extensive bureaux; and

Whereas it is the opinion of those present that the governing body can best serve the people by acting as a judiciary body on such matters involving skill in art.

Now, therefore, be it resolved that we believe the governing bodies should discourage the further development of working bureaux in such matters, and should encourage the employment of professional firms of skill and ability to develop plans for architectural and landscape architectural work; and

Be it further resolved that we send copies of these Resolutions to the President of the United States, Secretary of the Treasury of the United States, Supervising Architect of the Treasury, Chairman National Commission of Fine Arts, Director of National Parks and Governor of the State of California.

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CANE SUGAR IN MORTAR

In a paper, presented before the Sugar Division of the American Chemical Society at its meeting in New Orleans, March 29, Drs. Gerald J. Cox and John Metschl, of Mellon Institute of Industrial Research, Pittsburgh, Pa., discussed their current investigations of the value of cane sugar in strengthening lime - sand mortar. Such an application of sugar is not new, as it is believed that the Romans made use of saccharine materials in mortars that have certainly stood the test of time. Also, in sugar-growing countries, it is known that sugar has been employed to increase the strength of mortar.

Drs. Cox and Metschl have found that there is very good reason for the empirical practice of "sweetening" mortar. From their experiments they have ascertained that mortar which contains sugar equal to 6 per cent. of the quicklime content has a tensile strength 60 per cent. greater than that of mortar containing no sugar. Further tests are planned of compression strength, setting time and durability as influenced by cane sugar.

The process of mixing the sugar with the mortar is quite simple. The sugar is dissolved in part of the gaging water and mixed with the sand and lime. The sugar must not be mixed with the lime before slaking.

With the present low price of sugar, the 5 or 6 pounds of sugar necessary for 100 pounds of lime is only a small addition to the cost of laying bricks or plastering a wall.

COMBAT BID SHOPPING

To combat the shopping of bids and promote better business practices, the allied subcontractors of San Francisco have organized and will attempt to enforce the collection of progressive and final payments as due, the use of standard contract forms and establish better relations with general contractors, manufacturers and jobbers.

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MT. VERNON REPLICA

On invitation of the New York City George Washington Bicentennial Commission, twenty members of the graduating class in architecture of Pratt Institute of Brooklyn, spent several hours on April 4th in an inspection and study of the replica of Mt. Vernon, under construction in Prospect Park, Brooklyn, by Sears, Roebuck and Co. The class has just finished the drawing of a rendering of Mt. Vernon as one of its special problems.

Headed by Lester B. Pope, director of architectural courses of the Institute, and C. W. O'Boyle, a member of the architectural faculty, the students made a close inspection of the three buildings.

TO FURNISH ESCALATORS

Orders approximating $150,000 have been placed with the Otis Elevator Company for four escalators by the Department of City Transit of Philadelphia, Pa.

These escalators will have a rise range of from eighteen to twenty-six feet. All four escalators will be four feet wide and have a capacity of eight thousand persons per hour. Two of the moving stairways will be installed in the Market Street station of the subway and the other two are for the City Courtyard station.

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TREATED LUMBER

Modern science has devised means not only of prolonging the human life span but also that of many organic materials commonly used for shelter, according to F. Leo Smith, of Washington, D. C., technical secretary, structural service department, American Institute of Architects, and also a member of the National Committee on Wood Utilization of the Department of Commerce.

By the chemical impregnation of construction materials, notably wood, the average period of obsolescence of homes and buildings is synchronized with that of the materials entering into their construction.

Before most structures reach the stage of obsolescence certain of their important structural parts are subjected to deterioration because of decay and insect attack. The impregnation of these parts with chemical preservatives enhances their lasting properties from two to five times, and in some instances gives them a certain degree of fire retardance.

Foundation timbers, sills, floor joists, and other sub-structural members are often used in contact with the earth, or in other locations where there is moisture, which causes decay and is also conducive to insect attack.

In most buildings in the United States only a relatively small percentage of the lumber need be chemically treated to insure adequate protection against these destructive agents, but in the aggregate millions of dollars in repairs and replacements could be saved annually.

This view is supported in a current publication of the National Committee on Wood Utilization entitled "Treated Lumber; Its Uses and Economies."

CIVIL ENGINEERS MEET

An interesting program was presented before the Sanitary Group of the Los Angeles Sec-

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tion, American Society of Civil Engineers, March 23.

E. A. Rutledge of Rensselaer Valve Company gave a talk on "Methods of Controlling Surge and Water Hammer Caused by Sudden Closing of Check Valves in Pumping Lines."

"Why Shouldn't Southern California Soften Water?" was the title of a paper presented by Chester A. Smith of Burns-McDonnell-Smith Engineering Company. The paper brought out the fact that if the citizens realized that for an extra cost of a few cents per thousand gallons, soft water may be obtained and that the saving from soft water would more than pay this very small cost, there would be a number of cities with hard water supplies that would construct and operate water softening plants.

A symposium of "Sewer Disintegration in Southern California" was presented by E. H. Clarkson of the Los Angeles sewer department and A. M. Rawn, assistant chief engineer of the Los Angeles Sanitation District.

STATE CONTRACTORS

The California State Registrar of Contractors reports 647 licenses issued during February making a total registration to date of 23,323. Reductions have not been made from this figure in cases of suspension or revocation of cancellation of certificates of licenses no longer in business.

Six prosecutions for contracting without a license were brought during the month of February.

Inquiries from individuals and organizations throughout the United States continue to reach the Sacramento office for information about the California Contractors' law. Movements of varying importance are under way in over half of the states of the Union looking towards the introduction of similar legislation. New York State has taken the lead.

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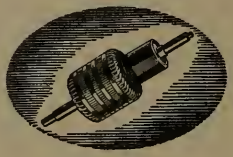
THE ARCHITECT AND ENGINEER

HOUSE NUMBER

MAY 1932



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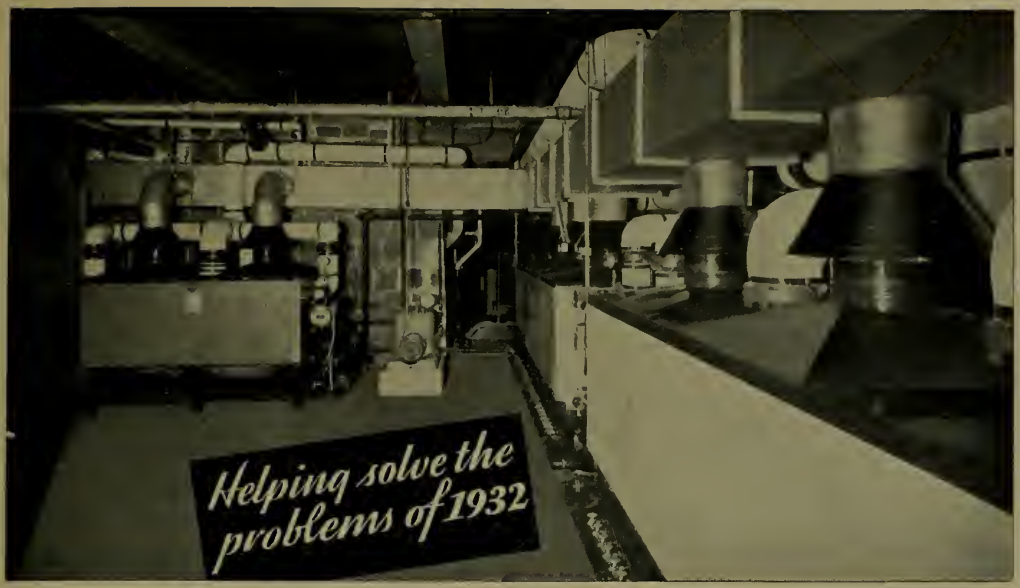

The two automatic gas-fired steam boilers, at right, furnish efficient service to approximately 8,000 square feet of cast iron radiation. The third automatic gas-fired boiler, at left, is connected to two 2,000-gallon tanks, equipped with steam coils for hot water supply.

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Architects: Weeks and Day

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JUST how architects affiliated with the A. I. A., many of whom seem to be unalterably opposed to the distribution of stock plans, either free or for a nominal charge, will appreciate the following announcement in a recent issue of *Heating and Ventilating Magazine*, remains to be seen:

"C. E. Stedman, vice-president of Celotex Co., Chicago, Ill., advocates a plan whereby a man, desiring to purchase a home, can simply select the one he wants from the lumber dealer's display.

"This proposed plan, which would enable the 20,000 lumber dealers of the country to sell home construction and stimulate the building industry, would make selection and buying easy for the future home owner, as he will know the exact price of each model and the financial terms available.

"Celotex Company is supplying each dealer with pictures, detailed drawings and specifications of houses of various sizes designed by well-known architects."

⁂ ⁂ ⁂

DEFINITIONS of certain acts forbidden by the Colorado state law regulating the practice of architecture, such as gross incompetency, reckless, dishonest, fraudulent or deceitful practice, have been incorporated in additional by-laws of the State Board of Examiners, adopted at a recent meeting. The text of the new by-laws follows:

"Defining certain acts which will be considered as gross incompetency, reckless, dishonest, fraudulent or deceitful practice within the meaning of the act.

"Failure to use diligence in preparing contracts or other documents for the protection of a client shall be deemed recklessness in the construction of a building. Failure to use due diligence in planning or supervising a structure, resulting in the building being improperly constructed, shall be deemed recklessness in construction.

"If failure to protect client in preparing contracts and other documents is due to causes other than lack of due diligence, it shall be deemed gross incompetency. If the planning or supervision of the construction of building by the architect results in faulty or improper construction, said architect shall be deemed grossly incompetent.

"Any architect may be deemed guilty of dishonest practice if he pay any money or give anything of value to any officer or employee of the State of Colorado, or of any county, state, municipality or school district within said state, for aid and assistance in securing work from the political subdivision which he represents or is employed by.

"If an architect has secured a contract on any work, it shall be deemed dishonest practice for any other architect to attempt to supplant him so long as this contract be in force.

"It shall be deemed dishonest practice for any architect to stamp the drawings of another, or to stamp any drawings other than those made at his own office, or under his personal supervision.

"It shall be deemed dishonest practice to publicly announce, or permit to be so announced, appointment as architect for any project unless a definite agreement with the owner exists."

⁂ ⁂ ⁂

G. SZMAK, economist, submits the following, being a series of questions and answers intended to throw some light on a series of problems that confront the building industry today:

Q. (a) Why should we build while radical fluctuations in market rates exist? (b) What will reduce fluctuation in construction prices and encourage buying?

A. (a) It is not advisable to build during a period of price inflation, unless positive assurance is available of the continued stability of market rates. Construction is now available at normal prices. (b) Both buyer and seller freely making known the price paid for construction.

Q. What is being done to stabilize construction values?

A. Indirectly, there are a great many factors contributing to the stabilization of construction values. Directly, the most important factor is the economic cost of material and labor, plus efficiency of production provided by fair competition.

Q. What assurance does the buyer or investor have that he will receive the right economic value for the money expended?

A. First: The buyer or investor should employ only proven, trustworthy services. Second: All agreements should be based on a positive "bill of goods" or a scientific survey of the quantity and quality required in detail. Third: Comparison of quotations in detail, stating the quantity, quality and prices, before purchase or execution of contract.

Q. If construction materials are 33⅓ per cent less and labor is willing to work for 50 per cent less than in 1929, what can a house be built for now, costing $10,000 in 1929?

A. $6500. In fact, buildings can now be erected at very nearly pre-war prices.

Q. What is the sound basis on which to buy construction?

A. By measurement, instead of "hearsay" or "thumb rule."

Q. Will taxes continue to soar to uneconomic heights?

A. No. It is unsound government and the destruction of business not to adjust taxes to current market values. Such adjustment automatically decreases the amount of taxes, when re-valuation indicates shrinkage. Employ legislation to lower and fix tax rates to prevent fluctuations.

Q. Why are not government expenses balanced to the actual income of any specific location, instead of balancing the taxes to meet uneconomic needs?

A. It has been easier up to now to increase public taxes than to decrease government expenses. Taxes cannot be met if they are continually increased without a proportionate increase in business. A scientific system of taxation can be provided.

THE following letter, addressed to the editor of the Monthly Bulletin, published by the Illinois Society of Architects, will interest architects who think the United States government should retain private architects to design Federal buildings instead of maintaining its own architectural bureau:

You will be interested in the attached extract of specifications from the Construction Service office of the Quartermaster General for electric lighting fixtures in officers' and non-commissioned officers' quarters. This has been copied from the original specifications in the hands of a Chicago manufacturer of lighting fixtures who called my attention to the fact that the Government still believes in the gold standard to the extent of specifying same for lighting fixtures and perhaps upon further investigation we may find that the plumbing pipes, instead of being nickel plated are gold plated.

Now, we are all having trouble meeting our taxes on real estate, even for our little homes, and how on earth can the Government afford to be so extravagant as to use gold-plated lighting fixtures in bedrooms and sleeping porches in officers' quarters?

I think this is of sufficient importance for every architect in the Society to use as publicity why the Government should retain architects in private practice rather than bureaucrats to handle this work, the latter being incompetent and extravagant.

Very truly yours,
S. N. CROWEN.

The following extracts are copied from Bulletin No. 8398-D—11-7-30, Construction Service, Office of the Quartermaster General, being specifications for electric lighting fixtures for officers' and non-commissioned officires' quarters:

Page 5—Paragraph No. 7

"FINISH— * * * Where gold plating is required on fixtures, such plating shall be accomplished in an approved gold plating bath, using an anode of 24 carat gold. Where specifications require silver plating, the anode used in the bath shall consist of silver 925-1000 fine. Plated finishes of all kinds shall have sufficient material applied to the fixture so that when buffing has been accomplished, a smooth unbroken coating remains. Finishes applied by 'flashing' or applying just sufficient plate to acquire the desired color will not be considered as being in accordance with these specifications and, therefore, will not be accepted."

Circular 950-32-41.

Schedule of Fixtures for Single Company Officers' Quarters, Langley Field, Va., Dwg. No. 6506-476, dated January 25, 1932, calls for gold plated fixture in sleeping porch.

Schedule of Fixtures for Double Company Officers' Quarters, Langley Field, Va., Dwg. No. 6506-313, calls for gold plated fixtures in bedrooms No. 5 and 6 and in sleeping porch.

Schedule of Fixtures for Bachelor Officers' Quarters, Mitchell Field, N. Y., calls for gold plated fixtures in reception hall and bedrooms, Dwg. No. 625-196.

Schedule of Fixtures for Non-commissioned Officers' Quarters, Mitchell Field, N. Y., Dwg. 625-1592 and No. 625-1593, calls for gold plated fixtures in library.

⁂ ⁂ ⁂

It is gratifying to know that our efforts to properly present the work of leading Pacific Coast architects is appreciated. A letter from Henry Carlton Newton and Robert Dennis Murray of Los Angeles, whose work was illustrated in the April issue of THE ARCHITECT AND ENGINEER, indicates such appreciation. We cannot refrain from quoting one paragraph from Mr. Newton's letter: "Mr. Murray and I are most enthused over the publication. It was very well prepared and presented in a splendid fashion. Please accept our sincere thanks."

VOLUME 109
NUMBER 2

THE ARCHITECT AND ENGINEER

MAY
1932

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Next Month

THE MILLS COLLEGE PLAN by W. H. Ratcliff, Jr.

A Picture Story of one of California's leading educational institutions. Forty photographic plates, plans, and sketches by the architect and descriptive matter by Rosalind A. Keep.

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VISTA FROM LIVING ROOM PORTAL, RESIDENCE OF MILTON S. RAY, SAN FRANCISCO

Palace of Fine Arts in Foreground and Golden Gate in Distance

THE
ARCHITECT
AND ENGINEER

MAY 1932
VOLUME ~~140~~ 109
NUMBER TWO

WHAT ABOUT THE MODERN HOUSE?

by
A. C. WILLIAMS

EXPERIENCING as we are today, the convulsions of a self-conscious age, a period in which the old and reliable in every field of thought and activity is being cast aside to make way for the novel, the new, the naive, is it any wonder that our domestic architecture has failed to escape the ramifications beneficial and otherwise, mostly otherwise, of the modernist.

It being a period of analysis and reform, research and inevitable erraticism, nothing is any longer accepted as a matter of course. It must be weighed, balanced and judged. Is it functional? Is it practical? Is it logical? Such a condition cannot fail to stimulate the artist and the workman alike.

The quality of work resulting from such a condition, though often dubious, is conducive to much discussion and debate. In such a spirit this symposium is offered. Not as anything ultimate but simply as expressive of one viewpoint. Besides, the temptation to expound on such a popular and widely discussed question is irresistible. The opinions herein presented are the result of a lively interest in domestic architecture in conjunction with much observation and much participation in pleasant discussions of this most personal, most intimate and most exacting of architectural problems.

The gradual decline of the architectural styles in contemporary domestic work and the ultimate acceptance of another type of house, sloganized as modern, is obvious and inevitable. The day is approaching when people will no longer be intrigued by "shuttered" Colonial two-stories, or inexpensive and decadent palazzoes, permeated by Letarouilly, and the days when the gentle art of duelling was the favorite outdoor pastime and the ladies wore a spreading taffeta that would allow them neither in nor out of a modern dressing closet. The days of canopied beds are fortunately gone forever and it seems only natural that the sunless bedroom, deprived of its essential windows in behalf of a Palladian elevation, should follow in the wake of the sheltered divan.

So it becomes increasingly evident that we are on our way toward a really virile expression of this most wonderful of phases in the history of the world. A period that so far has seen no equal for scientific discovery, structural achievement, mechanical design and invention and world-wide education.

Since history is inclined to repeat itself, this art movement, like every preceding renaissance, suffers first the destructive

RESIDENCE OF F. B. TRAVERS, CLAREMONT PINES, OAKLAND
Edwin Lewis Snyder, Architect

DETAIL, RESIDENCE OF F. B. TRAVERS
Edwin Lewis Snyder, Architect

period, when the old is junked and the new is little better. Then the return to fundamental precepts and the development of a style, if you will, whose basis are the immortal standards that eventually must be acknowledged and that are a part of man's being and appreciation as surely as his love of life. But we must also produce a style that is expressive of man's intellectual advance and the resultant materials at hand that compose the present day structure.

Perhaps such a proposal might be adopted to cure some of the evils of the modern house epidemic. Why not design the modern house in harmony with man's present intellectual position and advanced mode of life? Again, why not design a home that makes use of all the modern means of construction and insurance against the destructive forces of the elements? And finally, why not design modern living quarters to conform with those criteria that will govern man's creations on this globe as long as he is existent on its surface.

RESIDENCE OF JOHN L. MARTAROTTI, MONTCLAIR, OAKLAND
Edwin Lewis Snyder, Architect

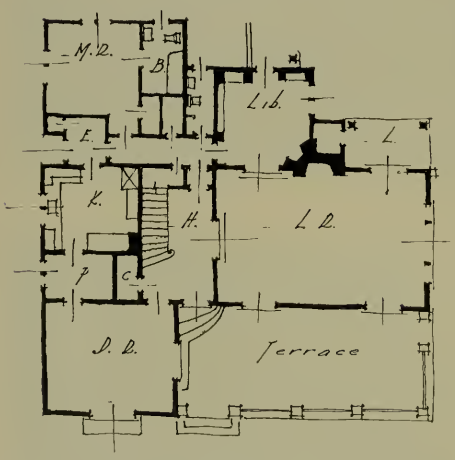
Let us then agree that the aim in architecture is not to be different. Our designs need not be novel, precociously new nor "moderne." There is no reason why the modern house must be startlingly angular, or monotonously box-like in character. There is no justification for the prevalence of flat roofs, windows that carry around corners or for any other cute detail that has come to be considered indicative or expressive of the "moderne." Granting their validity, the adoption of them in a solution that does not lend itself to such stunts, is stupid and insignificant. Such designing is not an advance on the past but is plagiarism of a sort that only partially evades criticism.

We must forget that we are moderns and design houses that are efficiently planned, conducive to healthy living and in possession of that warmth and charm that comes as a result of designing honestly and in accordance with man's innate love of beauty.

Man is no longer a romanticist in his conduct and manner of living. His thirst

DETAIL, RESIDENCE OF JOHN L. MARTAROTTI
Edwin Lewis Snyder, Architect

SECOND FLOOR



FIRST FLOOR

PLANS, RESIDENCE OF F. B. TRAVERS
Edwin Lewis Snyder, Architect

LEGEND

The F. B. Travers house occupies a lot 66 by 120 feet with a livable area of 3250 square feet. There are nine rooms and a two car garage. The exterior walls are of used brick and stucco. The house is equipped with steam heat, oil fuel, electric refrigeration and cooking, steel sash, oak plank floors and split shake roof. Approximate cost, five dollars per square foot.

for this time-old delicacy is satisfied through novels and the talkies. We have reached a stage where we justly expect in our houses: convenience, quiet, flexibility, comfort and privacy, along with frankness. Our mode of life is one that takes us outdoors into sports, fresh air, exercise and sunshine. And our house should open to these outdoors and should invite them in. So, to the first challenge, why not design the modern house in harmony with man's present intellectual position and advanced mode of life?

This is no longer an age of feudalism or political revolts but one of peace and rights of property and understanding. Our houses should reflect this condition. Therefore we are forced to admit that houses whose massive walls are pierced with slit-like windows, originally designed to allow the inmates musket range against attacking Indians, are a bit incongruous in the suburban district of any modern city.

The man of today is master of his surroundings and his fate. He can travel under the earth and on the earth at unheard of speeds. He cruises the seas in ease and luxury and he can travel great distances, quickly and safely, in the air. There is little he cannot control and his house must not be an exception. So when he wants a warm house or a cool house, a sun flooded house or a shaded house, it should be obtainable with the fewest adjustments and without "Palladian" perturbations.

In our fast moving, commercial world, convenience, the watchword of the merchant and the selling point of the salesman, is assumed. It is promulgated by the advertiser and is expected by everyone. So to the housewife ease of operation of her house is as necessary to her as gasoline to a motor car.

Business organizations and institutions of all kinds have proven the value of internal efficiency. This value is well and widely realized. In the home, the oldest institution of all, an internal efficiency can be conceived through proper planning. That is, a careful study may be made of the uses to

which various units may be put and equipment supplied or a solution determined upon, to facilitate a complete exercise of them. The relations of rooms, one to another, is of extreme importance and the general scheme must have a logical reason for its particular existence.

To the second question: why not design a modern house that makes use of all the modern means of construction and insurance against the destructive forces of the elements, there is but one answer. The architect must acquaint himself with these means and exercise an ingenuity in their adaptation equal to that shown by their manufacturers in designing and producing them.

The answer to the third and final question: why not design modern living quarters to conform with those criteria of beauty that will govern man's creations on this globe as long as he lives, depends on the genius of the American architect, or rather, the contemporary architect.

So let us make our house of today as fresh and fine and real as our American outlook on life, as efficient as the structural materials and scientific knowledge at hand allow, and as beautiful and significant as our trained and inspired architect can create.

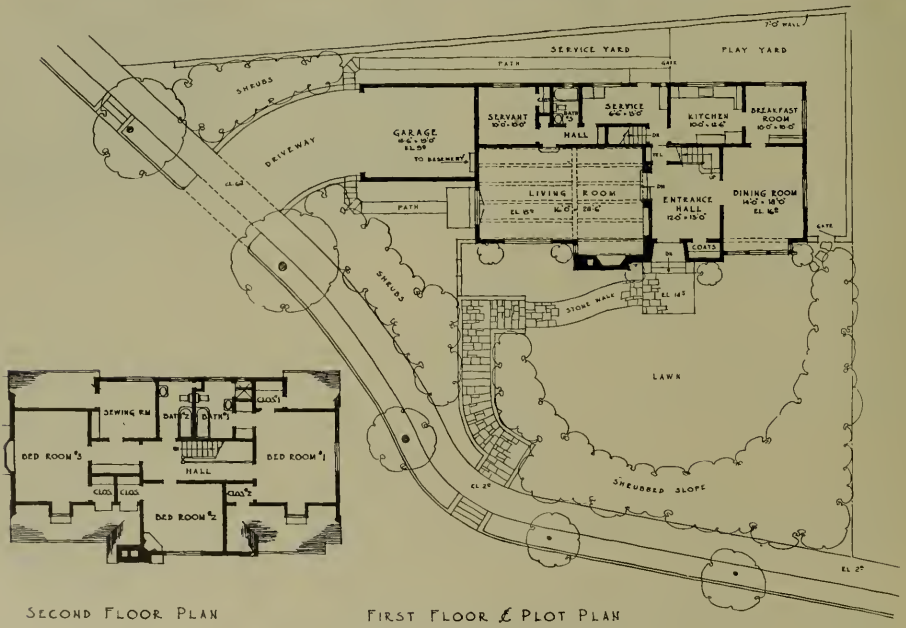
HOUSE OF H. J. HAWLEY, BERKELEY
William Wilson Wurster, Architect

"INTERIOR" ARCHITECTS

"Dean Bossange of the New York University College of Fine Arts, has planned a new department which will train "interior architects.' While there is unquestionably a real need for those who are better trained than a typical young woman with social contacts and tastes who selects, purchases, and arranges furnishings, it seems to the writer that if we are to train architects for interior work only, perhaps the time is coming when we shall train men for exterior work solely, and perhaps even specialize in theater architects, church architects, residential architects, and commercial architects. It would be a sad degradation of the architectural profession if our educational institutions were to discontinue the traditional method of attempting, so far as they are able, to develop architects who are designers in the broadest sense, with a solid foundation of what might be called, for want of a better term, cultural training. Already there are people who think that in building a skyscraper one goes to an engineer or builder first, and incidentally calls in an architect to drape the exterior. If we are going to attempt only the training of men—or women—who will drape exterior or interior, but not both, the end is in sight."—*—Architecture.*

Photo by Roger Sturtevant

HOUSE OF H. J. HAWLEY, BERKELEY, CALIFORNIA
William Wilson Wurster, Architect



SECOND FLOOR PLAN

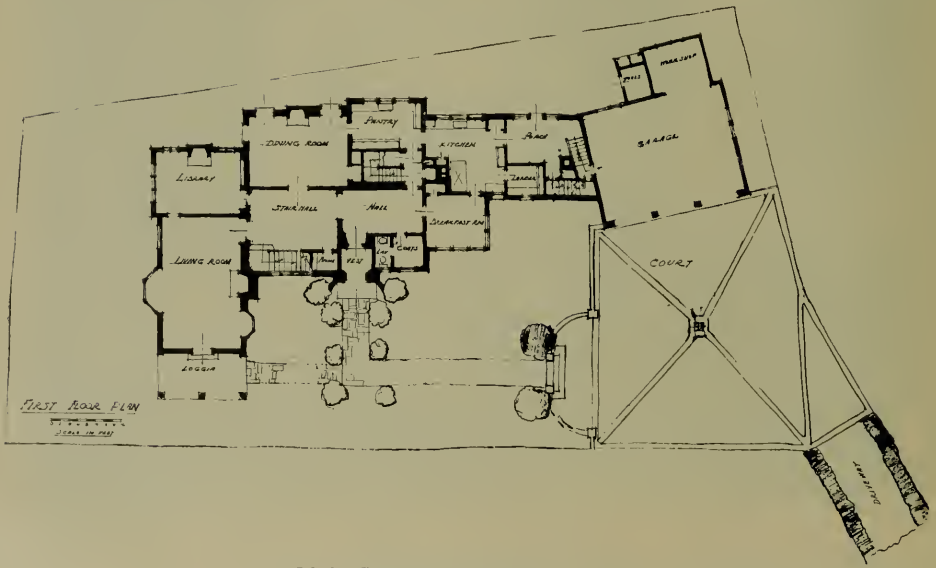
FIRST FLOOR & PLOT PLAN

PLANS, HOUSE OF H. J. HAWLEY, BERKELEY, CALIFORNIA
William Wilson Wurster, Architect

Photo by Roger Sturtevant

HOUSE OF H. J. HAWLEY, BERKELEY, CALIFORNIA
WILLIAM WILSON WURSTER, ARCHITECT

RESIDENCE OF ERNEST HOUDLETTE, PIEDMONT, CALIFORNIA
Clarence A. Tantau, Architect



PLAN, RESIDENCE OF ERNEST HOUDLETTE, PIEDMONT, CALIFORNIA
Clarence A. Tantau, Architect

Photo by Peppin, Conjer & Chamberlain

RESIDENCE OF ERNEST HOUDLETTE, PIEDMONT, CALIFORNIA

CLARENCE A. TANTAU, ARCHITECT

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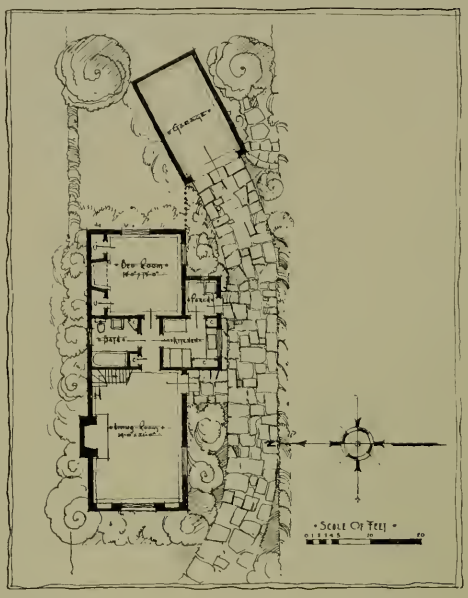

PLAN, HOUSE FOR MR. AND MRS. CHARLES C. JOHNSON, BERKELEY, CALIFORNIA

ARTHUR L. HERBERGER, ARCHITECT

HOUSE FOR MR. AND MRS. CHARLES C. JOHNSON, BERKELEY, CALIFORNIA

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HOUSE FOR MR. AND MRS. CHARLES C. JOHNSON,
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HOUSE FOR MR. AND MRS. CHARLES C. JOHNSON, BERKELEY, CALIFORNIA

ARTHUR L. HERBERGER, ARCHITECT

SMALL HOUSE ON ESTATE OF STANLEY WILLIAMS, LOS ANGELES

HENRY C. NEWTON AND ROBERT D. MURRAY, ARCHITECTS

THE BLUE-PRINTS AND THE PAUPER

by
HAROLD W. DOTY, Architect

WHAT is an architect and what is he not? Before we can proceed lucidly in a discussion of any stock plan agency this question must be answered. Architect derives from the Greek word, "architekton", meaning chief artificer, or literally, chief carpenter.

That the average American architect could not file a saw, let alone, cut a hip rafter, means nothing. We do know, however, that through the guidance of architects buildings are produced. To facilitate his work, the architect makes diagrams: plans, and provides written descriptive matter: specifications. These documents are merely the means and not the object of his effort. All sounds simple enough, but this primary principle is constantly lost sight of, often by architects, and more often by the public. Many plans are far prettier to look upon, with their sparkling snappiness and gay lettering than the buildings resulting from them.

Were it expedient to build structures with the architect doing no drawing or writing whatsoever, they would be so produced. Emphatically, the architect is in no sense a purveyor of plans. He has for sale, only his knowledge and skill as the guiding factor in building. The relationship of architect, plans, and building is similar to lawyer, briefs, and case. Every sensitive practitioner in this, or any other land, seriously contends that designing, specifying, and superintending, are each inseparable from the other, and also believe the direction of the author must be felt in each stage.

If the foregoing is admitted, then how can an architect be a party to any procedure which does not recognize these factors, claimed by our leading designers to be the very essence of architecture? We have no merchandise for sale, therefore, any comparisons to general commodities and their exploitation are futile. This thought is not Utopian unless we take all art out of building and thereby leave no architecture.

Every piece of work, no matter how small, has its special problems, and these must receive careful consideration by the architect. Manufacturers of mass production houses will have to recognize this fact, making their product highly flexible through some sort of unit construction. But we digress.

The small house has long been the *bete noir* of architecture. The speculator-built houses in most American cities are atrocious. Architects, too, have had a part in the debacle. There is no denying that a vast number of architect designed houses are very little, if any, better than the speculative product. To discuss reasons for the failure of architects generally, in the small house field, would fill a book, or at least a sizeable pamphlet. Suffice to say that the training was not with strict economy as a guide post, and the larger offices could not be bothered.

Henceforth, all architects will be concerned most decidedly with houses and housing. Almost every piece of writing at the moment recognizes this. Eugene H. Klaber, in a recent A.I.A. bulletin, stressed the importance of the production of dwellings.

SMALL HOUSE ON ESTATE OF STANLEY WILLIAMS, LOS ANGELES
Henry C. Newton and Robert D. Murray, Architects

PLAN, STANLEY WILLIAMS HOUSE, LOS ANGELES
Henry C. Newton and Robert D. Murray, Architects

It is most certainly not within the provice of the architect, in an attempt to combat the vicious influence of "jerry designed and built" houses, to cast aside his true function, or to dilute his ideals, or to endeavor by sheer force of will, to change reality.

The Architects' Small House Service Bureau, stressing the importance of capable professional service on one hand, while providing an already confused public with something entirely different, is in an embarrassing position. Would the medical societies advise a man to consult a doctor, when in illness or infirmity, and then suggest the use of "Tono Bungay" or "shilling a box" ointment. No, they would not. This is a day when all propaganda should be for recognized procedure, and not substitution.

Any stock plan operation will injure the profession exactly to the same degree that

Photo by Miles Berne

GARDEN VIEW, RESIDENCE OF T. F. KNIGHT, LA CANADA, CALIFORNIA
Henry C. Newton and Robert D. Murray, Architects

it is exploited. The public is too certain already that an architect's service is chiefly plans and specifications. Continued encouragement of stock plans will convince laymen definitely on this erroneous theory. If a plan bureau prospers in any part of the country, it is establishing unfair competition with architects in that locality. We have architects as a group in the Bureau in competition with local practitioners, as individuals, which is an unfavorable and unusual situation. The established merchants in a community would not set up fifteen cent stores in competition with themselves. Normal competition is healthy and is valuable.

Education is the need, both for the architect and the public—with the methods yet unestablished. What shall we do to achieve what the Bureau was designed to accomplish? The Institute and the State Societies might consider points similar to

PLAN, RESIDENCE OF T. F. KNIGHT,
LA CANADA, CALIFORNIA
Henry C. Newton and Robert D. Murray, Architects

the following: (1). Furnish high standard house designs, to appear each week, year in and year out, in newspapers in every section of the United States, these designs recognizing local traditions wherever possible. No plans to be available for these. (2). Tell the public in plain words, what the architect is and does. (3). Educate our architects through clinics, to make more certain they can do what we say they can do. (4). Architects to study thoroughly, economy in plan and structure of houses. (5). So inform the youth today that he may understand the value of an architect tomorrow.

COLONIAL ARCHITECTURE

Extracts from a Letter by
LEICESTER B. HOLLAND

One of the great weaknesses of our national temperament is the tendency to overcrowd an interest with frantic enthusiasm one day and forget all about it the next. Our calendar is becoming as full of Safety-first Weeks, Clean-up Weeks, Mother's Days, etc., as the calendar of saints, and we may be tempted to consult the morning's paper some day to see whether that day we should be energetic, or thoughtful, or optimistic, or kind, or even sane. It hardly seems to me a worthy tribute to the quiet majesty of Washington, the forward looking national builder, for the A. I. A. to offer a prize to the architect who shows the most intensive knowledge of the architecture of *any specified time*.

Again, I am averse to the encouragement of period architecture, and the American Colonial style is just as definitely period architecture as French Gothic or Spanish Renaissance or Mayan. It is true that our Colonial work is an indigenous development, but so is that of the Greek revival or the General Grant period and it is true that many of its qualities are worthy of study and emulation today. But these are the qualities of simplicity, naturalness, and good-breeding which are dependent on no style and cannot be achieved by imitation, but only developed from within. The effort to work most absolutely in a given style most thoroughly destroys these qualities.

Finally, I do not believe that it would be practicable to decide what were "the best examples of Colonial work done this year." For there would be an inevitable conflict between that which was archæologically correct and that which was good architecture in the primary requirement of suiting modern needs. * * * The time spent in study and research may well make us refine our own architecture, but Colonial which is further refined and which meets present day demands, is no longer Colonial.

My personal feeling is that all styles should be deeply studied with the utmost sympathy, to increase our knowledge of humanity and the architectural satisfaction of its needs and aspirations, and that we should treasure all fine examples of architecture in this country, that they may be studied; but that no great architecture ever can spring from conscious imitation of another architecture so separated by time or space that it can be given a stylistic label.

This holds for the "International Style" as well as for the "Colonial."

MODERN DESIGN LACKING

Ellsworth Johnson, giving his impressions of the architectural exhibition at the de Young Museum, San Francisco, emphasized the fact that domestic architecture dominates the show, which would seem to indicate that the present trend of building is towards residence work. The public is looking for inspiration for its own housing dreams and is ready to build if given proper financial support. "There is a pleasing return to simple materials to which charm is given by fine proportioning and artistic visualization," comments Mr. Johnson, who adds that "with few exceptions modernism is conspicuously absent. We are sorry, not that we care much for the style except when remarkably well done, but we would like to show the world we can take a first place in the field if we want to."

INTERIOR DECORATION FROM AN ARCHITECT'S VIEWPOINT

by
C. RAYMOND BUTCHER, Architect

INTERIOR decoration from the architect's viewpoint had its origin in pre-historic times, and to thoroughly cover the subject for the one who conceives plans and finished structures we must turn back to historic and pre-historic sources.

Historians tell us, and we can readily see that the information has some truth, that earliest man followed the instinct of self-preservation and probably lived in caves and other forms of crude shelter. After killing a deer or bear the skins were hung on the walls, where the space warranted the use of a certain hide, and others came into use on the floor. It was discovered that a sharp stone could scratch designs on the walls and that charcoal would make interesting marks on dried skins of animals. Soon the instinct to draw animals in rough form gave rise to the literal decoration of their caves. This crude beginning was the basis of our sculpture and painting and their use in particular areas in the structure was the origin of what we term interior decoration.

From this source over a vast number of unrecorded years we come to the Egyptian temples and find in much more developed form the carvings and paintings richly adorning the architectural features of the buildings. Both inside and outside the same idea of unity of thought embraces the beauty of it all.

The temples and civic buildings of Greece and Rome bring to mind the same general idea of an interior similar to the exterior and expressing structurally the nature of the building. Paintings adorned both the exterior and interior, not to hide, but to accent the structure.

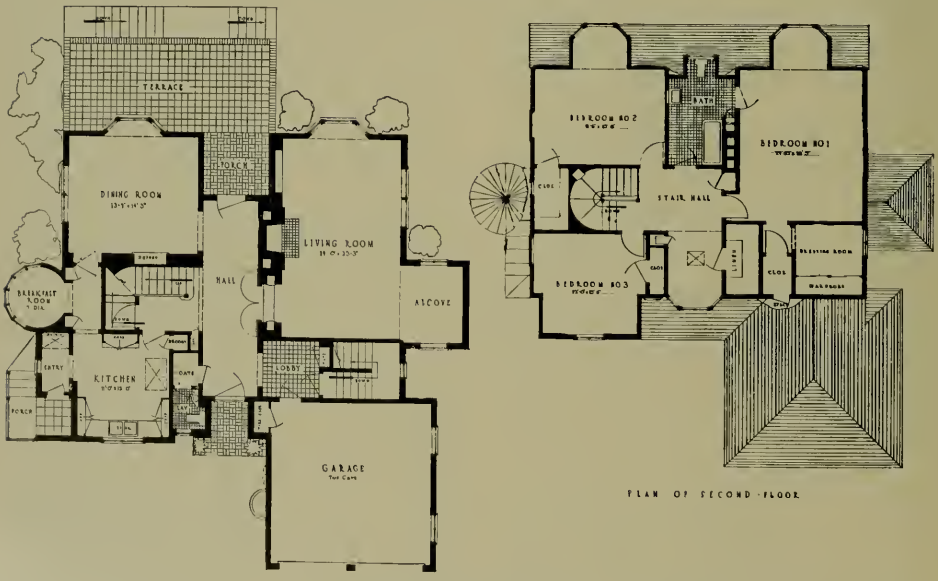
We can take most any of the periods of history and see that the most attractive are those that give some indication of the structure. Subconsciously we are interested in what holds up an immense ceiling. If it looks structural we immediately feel at ease, and if not, well, you know how you feel. If we but direct our thoughts to early English inns we are amazed at the beauty of the interior beam and timber work. We feel secure and all is well.

We all know of the wonderful feeling of restfulness that comes with a well-designed and properly decorated hotel lobby. And why? An architect will analyze it this way: Structurally, you feel you are safe, so you sit down; you look up and you feel the dark value of the beam work and you know you are protected from the elements; you rest even more comfortably than before; then you begin to revel in the well-designed luxury of the environment. Everything is correctly balanced and in perfect order.

Too much in the past has been useless and without reason. Interiors which were a flagrant attempt to express wealth through abundance of all that could be placed in a room, have vanished.

From the viewpoint of the architect we conclude then that truthfulness is the keynote of interior decoration. We avoid or advise against the use of any material that is a clear-cut attempt at imitation. We may well quote Carlisle, who says: "No good man did, or ever should, encourage cheapness at the ruinous expense of unfitness, which is always infidelity and is dishonorable to a man. If I want an article, let it be genuine, at whatever price; if the price is too high for me, I will go without it, unequipped with it for the present—I shall

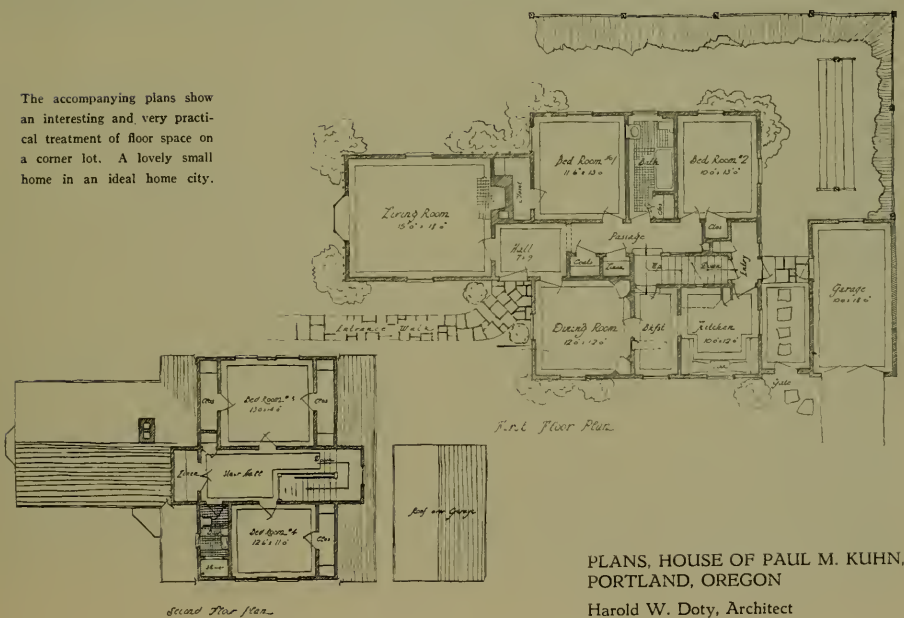
HOUSE FOR CARL G. ANDERSON, PORTLAND, OREGON
Harold W. Doty, Architect



PLANS, HOUSE OF CARL G. ANDERSON, PORTLAND, OREGON
Harold W. Doty, Architect

HOUSE FOR PAUL M. KUHN, PORTLAND, OREGON
Harold W. Doty, Architect

The accompanying plans show an interesting and very practical treatment of floor space on a corner lot. A lovely small home in an ideal home city.



PLANS, HOUSE OF PAUL M. KUHN, PORTLAND, OREGON
Harold W. Doty, Architect

Roofed with N. Clark & Sons Sussex shingle tile

RESIDENCE OF FERDINAND BENDHEIM, PALO ALTO, CALIFORNIA
Henry H. Gutterson, Architect

not have equipped myself with hypocrisy at any rate." Even though one is forced to use an imitation, and granted that the substitute is a good one, rarely are we deceived as to its real nature and subconsciously we say, wouldn't it be fine if this were real?

Since the living room is the principal element in a home we may briefly discuss its architecture. Generally we plan for a view comprising the country-side or the garden. If we have no view lot then we concentrate on a garden or outdoor living room. This demands a grouping of windows and, therefore, affects the interior. We must find a place in plan that will most nearly satisfy all demands, then consider other elements. The fireplace has long been an important place in our planning. We should weigh these points:

(1) A fire place should be on the inside wall when possible.
(2) It should be at the end of the room so as to permit more intimate grouping of furniture.
(3) It should be seen upon entering the front entrance since it is a very important feature.
(4) It should not be near frequented circulation which would disturb the intimacy of the fire place group.

From the standpoint of the architect, furniture to be used should be quite definitely known while the plans are in the sketch form, so that wall space and other provision might be made for the furnishings. Since wall space is much to be desired, the architect will give much thought to the necessary areas for furniture and decorative elements.

It is the duty of the architect to protect the client from his own folly and to work with him in securing unity of plan and design. The architect is anxious to save his client money as well as spend it. He insists upon unified character. He abhors the bizarre type of home so frequently done by builders.

The architect will design and draw completely all the structural and mechanical features of a house, as well as determine the contour of mouldings, design built-in cupboards, some types of permanent furniture, and provide for the entire completion of the work. He will leave the matter of color, unless consulted, to the advice of a professional interior decorator, who it is assumed, will take as a keynote some color value of the woodwork, or style of architecture which the architect has set upon, and work out an harmonious composition in color, value and relative importance, of the draperies, wall covering, fixtures and the furniture.

The summation then, is this: the architect determines the fundamental elements of the atmosphere desired in a home, and the decorator, beginning where the architect left off, completes the job.

Courtesy Gladding, McBean & Company

ST. AUBIN, FRANCE. NOTE BUTTRESS-LIKE FORM OF WALL WHERE IT ENGAGES HOUSE WALL

HOUSE FOR BETTY R. TAYLOR, SAN MATEO, CALIFORNIA
Chester Root, Architect

NEW TYPE OF SMALL HOUSE POPULAR IN PENINSULA DISTRICT

THE three houses illustrated on this and the next page are a type of small home that is rapidly replacing the square, box-like house which had its era of popularity not so many years ago. Better architecture, better planning and improved building materials characterize these homes which the George W. Williams Company of Burlingame is erecting for its clients and for investment purposes. The house by J. K. Ballantine on the Woodstock Road, Hillsborough, is the larger of the three homes illustrated and cost considerably more than the other two houses. The latter are in San Mateo and represent an investment of approximately $6500 each. Chester Root was the architect. People with reduced incomes are ready buyers of this type of home which accounts for their increasing number.

The houses have six rooms with bath and garage and are equipped with modern conveniences, such as hot air heating, electric refrigeration, hardwood floors and color tile bathrooms.

HOUSE FOR DR. F. D. LORENZ, SAN MATEO, CALIFORNIA
Chester Root, Architect

A G. W. WILLIAMS HOUSE, HILLSBOROUGH, CALIFORNIA
John Knox Ballantine, Jr., Architect

SUMMER HOME OF PAUL H. HELMS, BEVERLY HILLS
GORDON B. KAUFMANN, ARCHITECT

RESIDENCE IN BEVERLY HILLS, CALIFORNIA
J. R. MOISO, ARCHITECT

Gladding, McBean Granada Roof Tile

RESIDENCE OF C. W. COOKE, HONOLULU, T. H.
HART WOOD, ARCHITECT

ELECTRIC WIRING SERVICE FOR THE MODERN HOME

by
ARTHUR B. LINCOLN
In "Pencil Points"

IT frequently seems to the harassed architect, as he reviews the rapid development of modern conveniences and equipment, that it is impossible to so design a house that it will not be out of date before the contractor has had time to erect it. How often the client for a newly completed house asks about some new gadget, of which he has just received a leaflet through the mail, wondering why it was not considered for his operation. In no branch of the field is this better demonstrated than in electric wiring, with new accessories being designed almost daily to increase uses of the electric current.

It is a far cry back to the days of the combination gas and electric lighting fixture; a pipe stem from the ceiling to make gas available for lighting, if and when the electric current was interrupted. Such a contingency will seem ludicrous to your present-day client, yet it was not so long ago that many houses were built which still offend the eye with these unsightly fixtures.

Originally, with electricity limited to production of light, one central ceiling fixture and a single convenience outlet were considered adequate for service in all but the largest rooms. How short-sighted such vision has proven, taxing clients unlimited dollars to increase the service which the electric current could render through subsequent doubling of the number of outlets.

The limit has not yet been reached. It is always the wisest course, where budget limitations of the house owner do not hold the cost to a minimum, to provide a greater number of outlets for electric service than present requirements might indicate to be necessary. These nerve centers of the house are covered up, once the construction period is passed, and any necessity for adding to their number after the house is completed will involve much greater expense.

With a resolve then to make the plans very complete, let us consider the various parts of the electric wiring installation for the home.

The Lighting Outlet

Electricity was first introduced to the home owner as a dispenser of light, so it is logical that such type of service be the first discussed.

The lighting of any room must be considered from three viewpoints, each a common condition under which light might be required. First there is the flood of light, giving illumination of high uniform intensity throughout a room. This can best be obtained from a central ceiling fixture. Second is the low level of general illumination around the borders of the room, adequate for casual movement and general conversation, but never intended to meet lighting requirements for reading. Local highlights from shielded brackets set on the wall about 5'6' to 6'0" above the floor provide this service. Finally, for cozy fireside warmth, conducive to restful reading and sewing, there should be shaded floor lamps, plugged into nearby convenience outlets.

The Switch Box

Closely related to the lighting outlet is the switch with which these lights are today controlled. No longer do cords or pull chains hang down from the majority of the ceiling fixtures in the home; remote con-

trol has come into existence, its convenience fully recognized by the progressive client. Hence it is expected that as one enters each room a switch controlling some part of the lighting will be within convenient reach. Otherwise the unfortunate seeker after light is threatened with a stubbed toe in his blind search.

The clumsy looking snap switch of pioneer electric installations long since gave place to the more efficient push button. This, in turn, is today being superseded by the even trimmer and more business-like tumbler switch; pointed up when the lights are up, and down when they are doused. Located adjacent to the latch side of the door, a touch of luminous paint on the tip will often expedite their discovery in a darkened room.

A path of light sweeps through the modern house along the way chosen by the nocturnal wanderer, be he victim of insomnia or raider of the refrigerator. Three-way switches are the genii which make it possible to light up a room as you enter it on one side, and switch off the light when you leave through a door on the opposite side. These have long been in use at the foot and head of stairways to instantly light the stair from either floor and obviate the necessity of turning off a light and negotiating the risers in the dark.

The remote control of lighting outlets increases the hazard that lights will be left burning needlessly, thereby wasting current and adding to the monthly bill for this service. Pilot lights, which warn by a brilliant bull's-eye on the switch plate, when a distant light has been left burning, reduce the chance that a lamp in attic, cellar, or garage may not be turned off.

The Convenience Outlet

The number and location of the convenience outlets are the test of adequate wiring in the modern home. Not only should a sufficient number of these be provided, but their location must be such that no wall surface, where electric current might be required in the future, will be devoid of this service. Neither must distance from outlet to appliance require exceptional lengths of cord. Installation of even a few additional outlets in the future will be so expensive, compared to their cost at the time the house is being built, that the architect is fully justified in requesting more on his plans than immediate needs seem to demand.

Convenience outlets of the duplex type, providing opportunity for plugging two appliances into the same outlet, are generally desirable today. The additional cost of the extra socket is negligible, while it practically doubles the possibilities for service.

All outlets of this type should be located with due regard for the particular function which they are intended to perform. By far the majority belong in the baseboard near the floor, where they will be inconspicuous and yet accessible. Floor lamps, radio and similar furnishing are seldom moved and may be considered semi-permanently located. Hence it is desirable to keep the cords close to the floor, where they will be removed from vision, and the hazard of tripping over them will be lessened.

Some equipment, such as the vacuum cleaner, requires plugging in of the appliance cord every time it is used. Locating outlets for these at waist height will preclude the necessity for continual stooping to the baseboard. Most of the outlets in the service portion of the house, that for the ironing board cabinet for instance, should be thus elevated. These, intended for plugging in temporary cords as for an electric percolator or toaster, will be most useful when not placed too low.

In the dining room it is often desirable to place an outlet in the floor under the table, from which a wire, piercing the rug, may be carried up to a convenience outlet under the table top. This will facilitate preparation of coffee or toast, and provide current for the occasional party meal at which table lights may be preferred to more customary lighting means.

The Panel Board

Location of lighting, switches, and convenience outlets has been covered in detail, since the architect is genuinely interested in their proper location to give maximum service, and to that end shows their location upon his plans. They are in daily use

by every member of the family once they move into the house, and every forethought to place them properly is fully justified.

There is another important unit of the electric wiring installation to which more consideration should be given than is usually the case. This is the panel board or fuse box, where the various wiring circuits are protected against any overload which might result in serious damage. Only in recent years has it become customary to locate this unit where it could be found readily. It was long placed in the cellar adjoining the meter box, where it could only be reached by the man of the house, when that emergency, a blown fuse, made it necessary.

Since all circuits are distributed from this box, it is logical that it be placed at the load center of the system, which is the kitchen. Hence the modern preference for placing this box in the wall of some part of the service quarters of the house. The very fact that it is not hidden from sight down in the cellar will encourage many housewives to learn about its true function, and to acquaint themselves with the procedure of changing a fuse.

Circuit breakers rather than fuses have for a long time protected equipment in power houses in case of an overloaded circuit. The manufacturers of electrical appliances are now offering to the architect, for the home, a circuit breaker of this nature for low voltage circuits such as are found in home installations. Safety is assured absolutely, for they are completely enclosed and sealed, and cannot be accidently mishandled. Reestablishment of a broken circuit is simple, requiring but two movements of a switch handle; nothing need be replaced. No fuses have to be kept on hand, eliminating the embarrassment arising when no fuses can be found in an emergency—an embarrassment that is quite common.

Another accessory, while not readily shown on the plans, will prove an important adjunct to smoothly run households; that is the bell ringing transformer. This tiny servant, usually placed upon the cellar ceiling, will be an ever ready guarantee that the bells will ring whenever the push button is pressed at front or service door. No run-down storage battery need embarrass a family through failure to hear a bell

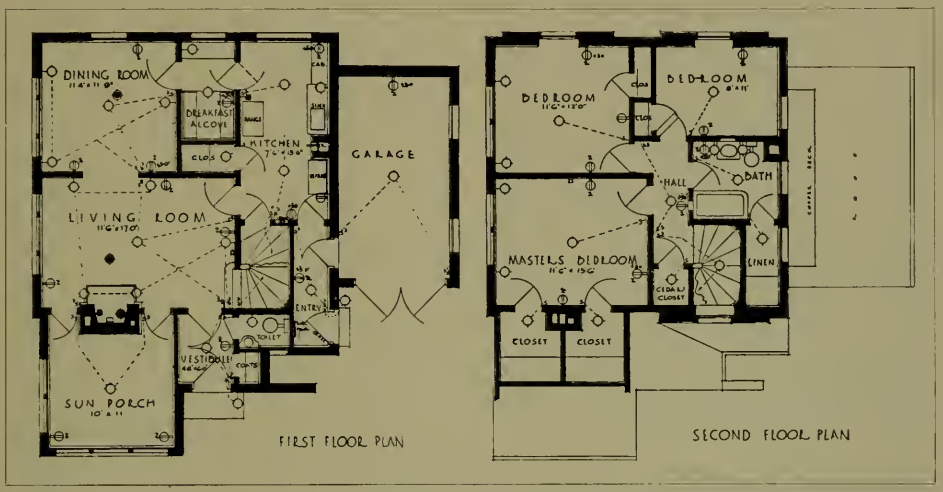


DIAGRAM OF ELECTRICAL FACILITIES FOR A MODERN HOUSE

ring, thereby keeping an important caller standing at the door.

Service Lines and Meter Box

There are other parts of the electric wiring service which seldom show on the plans, but which are necessary to complete the system. Public service wires must be brought in from a pole in the street at the front, or alley in the rear. These are usually strung overhead, although in some communities rigid restrictions require underground pipe conduit.

From the place of attachment of the wires at the eaves, they are led down to the meter box in pipe conduits to prevent possible tampering. The meter may be placed in a metal box housed in the outer walls of the house, a small door on the exterior face of the wall protecting it from the elements. Meter tests and inspectors never will need to enter the premises of a house thus equipped, a convenience and relief for those among your clients who are timid about opening the house to strangers.

From the meter and service switch, protected wire carries current to the load center, the panel board. From this point the various circuits are run to best distribute demands upon the service. B.X. flexible armored cable is the most customary type of wiring used in the average small home; it is readily handled, easily concealed in partitions and under floors, and seldom endangers the house with the hazard of broken circuits.

Wiring Outlets on Floor Plans

For the purposes of graphic presentation, floor plans are reproduced to illustrate the recommendations made herein. These show location of outlets as they are indicated on working drawings.

On the first floor the principal entrance to the house must be well lighted. In this instance a bracket on the wall adjoining the door will serve. A switch within operates this light. The entrance vestibule is illuminated by a ceiling light, with three-way switches at both outer door and entrance to living room.

Two means of lighting the living room are indicated, each under control from the entrance. One three-way switch operates a central ceiling outlet, with alternate control at dining room door and the door leading in from the kitchen. A second three-way switch controls side wall outlets, of which five are shown. The other control for these is at a door leading to the sun porch. Still a third three-way switch at the foot of the stairs extends its service to an outlet on the second floor above the stairway.

It is seldom wise to place three or more switches at one location as here, for the household will often be annoyed by the necessity of flipping two, or even three, tumblers before they locate the one they want. Such combination switch control should always be laid out according to system. In the present instance, the switch nearest the door furnishes general lighting from a ceiling outlet, while the one furthest up the stair lights the second floor outlet.

Three-way switches at either door leading to the sun porch assure flexible control of the central ceiling fixture in this room. The duplex convenience outlets will provide current for the portable lamps, victrola, radio, or any other appliance of this type with which the household may wish to furnish the room. In the living room outlets like this are distributed to give service to such appliances which might be set against any of the blank wall surfaces. Being of duplex type, they double the opportunity for service. All in these rooms are placed in the baseboard, since the cords will seldom be disconnected from the appliances they serve.

Ceiling and wall outlets combine to light the dining room in manner similar to the living room. Great reliance is placed upon the central ceiling fixture in this room, with three-way switches at living room and alcove doors. Most of the light is concentrated over the dining table. Two of the three wall convenience outlets are located in the baseboard, but the third is elevated in the belief that it will have a serving table placed under it. This will facilitate plugging in cords for the toaster, etc. A floor outlet in the center may be used to bring a cord up under the table.

Breakfast alcove is lighted from a ceiling outlet with a pull cord, since it is but a step across this narrow room. An additional wall outlet over a work counter nullifies possible shadows from the overhead fixture. The duplex convenience outlet will provide ample current to cook the light breakfast of the hurried commuter.

The kitchen is a long and narrow room. Since natural light comes from one end only, due to the attached garage, two ceiling lights are suggested, operating simultaneously on three-way switches, one at the door leading toward the dining room, the other at the opposite end of the room. A supplemental bracket over the sink will absolutely preclude possibility of shadows at the dishwashing task, while a convenience outlet above the dresser counter will supply power for the mixer, beater and similar type kitchen equipment of the modern housewife.

The automatic refrigerator will require either electricity or gas, while the ironing board cabinet must have its elevated outlet for heating the iron. Because of its depth the kitchen closet is supplied with a light. Some will want a switch here, others prefer a drop cord. The switch leading down to the cellar, marked by the symbol "P," is one of those remote control units, where the light is in danger of being left on, with waste needless of current. Therefore a pilot or bull's-eye is placed on the switch plate, to glow relentlessly whenever the light below is burning.

Three-way switches operate the ceiling outlet in the service entry, since this passage is rather long. The convenience outlet should be placed high, for it will receive but casual use. The electric panel board is placed in this passage, opposite the glass panel of the service door. Here, if the new type circuit breaker panel is installed, the housewife may rectify any trouble from overhead, without need for calling in outside assistance.

The garage with its ceiling outlet and three-way switches is well equipped; the elevated convenience outlet at the rear providing current for a trouble light, or power for any appliance which may be used.

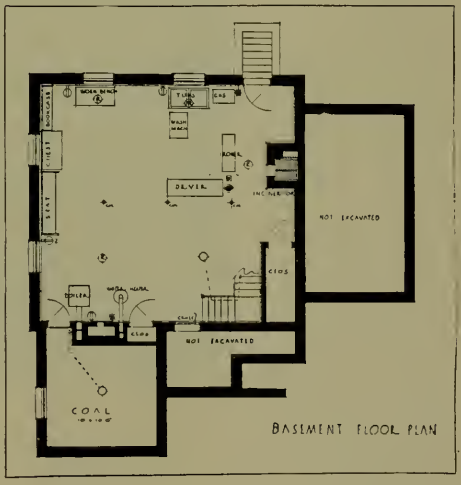
The bracket outlet outside the service entrance will light the garage approach as well as this doorway. It is controlled by a switch just within the door.

The Second Floor Plan

Turning now to the second floor plan, the outlet already mentioned as controlled from a three-way switch at the foot of the stairs is directly over this winding stairway, a very desirable location. It may be turned off at the head of the stairs, where another three-way switch controls the ceiling outlet of the upper hall. The convenience outlet is largely for a vacuum cleaner, and should, therefore, be elevated.

The master's bedroom has a central ceiling outlet to provide general lighting. It is controlled from the switch at the door. Wall outlets flank the windows to introduce a decorative element, while at the same time offering supplemental means of lighting. Duplex convenience outlets are well distributed, the one next to the dresser elevated. The two closets are each supplied with light outlets controlled from switches at the door.

A similar program of electric wiring service has been proposed for the bedroom at the rear, while in the small room, only the central ceiling fixture on a switch and two



ELECTRICAL FACILITIES FOR MODERN HOME

convenience outlets are deemed necessary. The bathroom is sufficiently large to have a celing outlet with switch at the door, and supplemental wall outlets flanking the medicine cabinet. A convenience outlet at hand height will power the accessories used in the toilet of the present-day household. The deep linen closet is lighted as a matter of course.

Basement Outlets

Not infrequently, in the laying out of a wiring system, the basement is slighted. This is seldom fatal, since the unfinished condition of the average cellar ceiling makes additions to the service a simple matter. Some minimum provision should be made as suggested here.

The ceiling outlet near the stair is the one lighted by the pilot switch in the kitchen. Other ceiling outlets will have receptacles operated by snap switches. One of these will illuminate the area about the heating plant, a second light the space about the incinerator, a third the laundry trays, and a fourth a work bench at the rear.

Convenience outlets are well distributed to power heating appliance, washing machines, dryers, and mangles — also for lighting a lamp at the seat for any reading member of the family. The coal bin should be lighted, and control vested in a switch at the door.

Field, wood and streams,
Each tow'ring hill, each humble vale below,
Shall hear my cheering voice; my hounds
shall wake
The lazy morn and glad th' horizon round.
—*Shapes of Clay*

IS THERE A PROFIT FOR ARCHITECTS WHO DESIGN SMALL HOUSES?

WITH the wide interest that architects have shown in the movement to discontinue the Small House Service Bureau of The American Institute, a discussion here of the financial returns to architects of small houses is opportune. That an architectural office can subsist adequately on a practice of small homes is admitted by some and openly questioned by others.

Royal B. Wills, writing on the subject in a recent issue of the *Architectural Forum*, says:

"One reason why so many architects complain that they can not make money on house work is because they are neither familiar with nor sympathize with the problem involved. Building small houses needs just as careful study as the larger jobs. What most small house builders want is as much size, comfort, and distinction as they can get for their money. Except for the few houses built by the very wealthy, where cost is no object, the construction must be kept mainly to stock materials. The draftsmen must have the stock sizes and dimensions at their fingertips, and the architect must know how to use stock material in unusual and interesting ways. An example of what I mean is found in one of our Colonial houses modeled on the earliest New England examples. In the first plan, we had a rather expensive window framing, with pegged corners. The client liked this, but did not feel that he could afford the extra price. We therefore designed a new window construction, using stock frames, and by the use of a few simple milled pieces and pegs in the corners, got the same effect at hardly more than the cost of an ordinary window. The purist may shudder,—but I do not see how an architect can secure a satisfactory volume of work without thus adapting his available materials to the needs of the job in hand.

I believe the most important factor in operating an office efficiently is to get the confidence of the client. More time is lost in making little changes to suit a particular client who is not quite sure of the architect's ability than is lost in any other way, hence it is highly important to make sure that your client believes in you. Without this confidence, it would be better not to take the job at all.

This is one reason why we do not try to sell clients too much on our services. If they come of their own accord, they are pretty certain to be satisfied with our ability.

Of course, every client has the right to be particular, as he is building a home to live in. With no previous experience in house building, he may grope in arriving at what he wants, but he should have his house exactly as he wishes it, as this is one of his prime reasons for employing an architect.

So, because almost every house involves a certain number of minor changes, we do not generally put our drawings on tracing cloth. When the drawings are in pencil, on tracing paper, they make just as serviceable blueprints, and can be easily changed if necessary, without great expense to us, and without the need of charging the client.

Another economy, in getting out drawings is to have all the information complete before turning it over to the draftsman. If the client can be satisfied in the sketch stage

and the sketch is turned over to the draftsman complete, the cost of getting out the plans may be kept very low. It is not the time spent in studying a job that runs up the costs. It is the high cost of conversation, and the time wasted because some draftsman has received incorrect information, and has to do the work over again. It is therefore very important to see that the draftsman has as complete and accurate information as possible.

Slack times are the bugbear of every architect's office. With high office overhead, even a short period of dullness may cause serious loss. One way of avoiding this difficulty is to maintain a small permanent skeleton force, to which additions are temporarily made during rush times.

This of course calls for some versatility in the various members of the regular force. The secretary may be able to do drafting and tracing. The draftsman may be able to collect money, supervise, and sell jobs as well as draw. With such a force, even in slack times, every member is productive. When the need for new business is acute, the draftsman, if he has qualifications in this line, can go out and try to get new business.

When business picks up and additional draftsmen are needed, I find it quite possible to use outside designers at night. These men have other regular day-time work, but are always ready to increase their earnings by this extra, after-hours work. We have a number of such men who have worked with us before, and who know our office well enough to pick up the work at once, and carry us through a busy period. This plan works out very well, for we do not have to hire permanent men who will, perhaps, later have to be discharged; nor are we tempted to carry an extra man over from rush period to rush period. I believe that some such flexible office staff is indispensable to the best results on small house work, which varies with the seasons as well as from year to year.

Supervision can be a very costly item if the houses are widely separated; in fact, it is almost impossible to supervise small house work at a profit unless the jobs are well grouped. I believe one reason for our success is that our houses are of somewhat similar requirements, and are grouped within ten or fifteen miles of the office. This greatly cuts down the time ordinarily wasted getting to and from the various houses.

I find that I can start out in the morning and visit five houses during the day, which keeps down our cost for the work, and enables us to do it at a profit. I have checked over certain jobs where we lost money, and have almost invariably found that the loss was due to having only one house in that locality, with the result that the time lost in traveling ate up all the profit.

I need not emphasize the need of a written contract with the owner. Failure to have a written contract too often leads to misunderstanding as to the charges, and results in a loss to the architect.

Method of Figuring Costs

Our system of figuring costs is simple but effective. The draftsman's time is multiplied by three, and to this is added the architect's time applied to that job at the rate of $5 an hour. This rate of $5 is more or less arbitrary, covering the architect's time on drafting, consultation, and supervision. To this combined cost a profit of 30 per cent is added. This method of figuring is somewhat akin to the One-Two system advocated by the Architects' League of Hollywood.

We give below a few examples of how this system works out.

On a $15,000 Colonial house, the cost of drawings was as follows:

Architect's Time, 7 hours at $5 per hour. Making preliminary sketches and talking with owner.	$ 35.00
Draftsman's Time, 33 hours at $4.50 per hour. Rate, $1.50 per hour times 3.	148.50
	183.50
30 per cent profit	55.00
Total cost of plans	$238.55

This cost may seem low, but it was an exceptional case because the owner wanted a certain type of Colonial house, and approved the sketches and drawings with very little modification.

On a $40,000 house the total cost figured:

Architect's Time, 238 hours at $5 per hour	$1,190 00
89 hours drafting and designing, and 149 hours supervision.	
Draftsman's Time, 217 hours at $3 per hour	651.00
203 hours drafting 14 hours supervision, rate, $1 per hour times 3.	
	1,841.00
30 per cent profit	552.30
Total	$2,393.30

On a $16,000 house the cost figured:

Architect's Time, 138 hours at $5 per hour	$ 690.00
54 hours drafting and designing, and 84 hours supervision.	
Draftsman's Time, 104 hours at $3 per hour	312.00
95 hours drafting and and 9 hours supervision, rate, $1 per hour times 3.	
Tracing, 30 hours at $1.80 per hour, rate, 60 cents per hour times 3....	54.00
	$1,056.00
30 per cent profit	316.80
Total cost	$1,372.80

On this particular job, the commission at 8 per cent was $1,344, or slightly less than the figured cost including a 30 per cent profit.

Some might complain that this method of figuring costs is not accurate enough. My answer to this is that overhead varies so much that it is impossible to know from day to day just what this expense is. But if 200 per cent is added to the draftman's time for overhead, this seems adequate. It also checks well enough with our actual overhead, figured in the following way:

	Per Month
Rent, light, telephone	$ 84.00
Stenography, bookkeeping, accounting	50.00
Office equipment, additions depreciation	5.00
Insurance	7.50
Automobile mileage	40.00
Magazines and books	7.00
Club dues	1.00
Postage	3.00
Telegrams	.50
Blueprinting, stationery, drawing materials	35.00
Photographs	20.00
Publicity and promotion of business	20.00
Expense of non-productive sketches	25.00
Bad debts	50.00
Charity	3.00
Miscellaneous	2.00
Total overhead per month	$ 353.00
Total overhead per year	4,231.92
Total overhead per hour	2.23

In figuring out this overhead, we have not found it necessary to include the architect's time, because in a small office, where it is possible to charge this item directly to the various jobs we believe this procedure should be followed. The other items have been checked carefully, and we know that they are very nearly right. The overhead expense per hour, which is the basis of our cost figuring, works out to $2.23.

Taking this figure for overhead, it is possible to check back the cost of a job on a basis of cost of productive hours plus overhead. As a matter of convenience, half the overhead is usually charged to draftsman's time and half to architect's time, as we are generally working on at least two jobs simultaneously. The costs, of course, figure less than if figured on the previous basis, but this method, while it may appear more accurate, does not allow for idle and non-productive time, but assumes that every hour of overhead during the year is charged against some particular job. In actual practice, this is an ideal that is hard to attain, so I believe our more approximate method of figuring is a safer and more practical one to use, at least in the small-sized office.

Our charge of 8 per cent, which includes traveling expenses, may seem somewhat low, when the American Institute and other organizations favor a charge of 10 per cent plus travelling expenses. We have found, however, that it is impossible to charge too large a fee on small house work, and that clients particularly dislike paying travelling expenses. We have found, too, that we can do the work at a profit, which, after all, is the ultimate test. We have checked our costs in accordance with most of the cost systems that have been advocated in the architectural magazines, and however we figure them, we come out on the right side of the ledger. It is undoubtedly true that every job does not make much money, but over a period of time the good ones will balance the poor ones. So we say with assurance that an architectural office can subsist adequately on a practice of small houses.

STRUCTURAL and MECHANICAL ENGINEERING

STRUCTURAL ENGINEERS ADOPT CODE OF STANDARD PRACTICE

SOUTHERN California Structural Engineers have taken the initiative in adopting a code of standard practice governing professional structural engineering practice. This code has been embodied in all new contracts entered into by members of the Association. Its purpose is to provide a standard for the professional relations between a structural engineer and his client. It sets forth in detail the services which the structural engineer is expected to render so that the client may know just what to expect in the way of consultation, structural design, drawings and specifications, and the drafting and letting of contracts.

Adoption of a standard code of practice is of especial importance at this time since the California law requiring registration of civil engineers now contains a provision for issuance of special licenses to structural engineers as such, and no one may practice structural engineering without being specially qualified for that work.

The Southern California Association was the first to be organized in the State and it now has about 58 members. An Association for Northern California has been established in San Francisco and efforts will be made to form a state-wide organization.

Following is the complete text of the new code:

Section I—General

A. THE PURPOSE of this Code is to provide a standard for the professional relations between a Structural Engineer and his client. It is mandatory in all its details upon all members of signatory bodies unless otherwise specifically so stated in a written contract between the parties concerned.

B. DEFINITIONS of terms as used in this Code.

1. A STRUCTURAL ENGINEER is one who by virtue of proper technical education training, and experience, and by registration as a Civil Engineer in California, is qualified to render professional services as herein defined.

2. A STRUCTURAL MEMBER is any element of a building, edifice, bridge, tower, frame, or other construction work which transmits stress or carries load other than its own weight.

C. ALL STRUCTURAL DRAWINGS SHALL BE SIGNED by the person in responsible charge of the structural design. The signature of a Structural Engineer on any drawing not made by himself or under his supervision shall indicate that the drawing has been completely checked for design and details by the signer.

D. STRUCTURAL ENGINEERING SERVICES are divided into nine classifications as given in Section II to X inclusive and may consist of part or all of the services as defined in those sections.

Section II—Consultation.

CONSULTATION shall consist of oral or written discussions with the client regarding any of the following:

1. Types of construction.
2. Methods of construction.
3. Selection and use of materials.
4. Location and arrangement of structural members.
5. Feasible and unfeasible features of architectural design from the structural point of view.
6. Condition of existing structures.
7. Cost of construction.
8. Hazards of the elements.
9. Methods of structural analysis.

10. Sub-surface conditions of site.

11. Any other phase of a structural problem on which the client may seek information and which the Structural Engineer is competent to discuss.

Section III—Structural Design.

A. STRUCTURAL DESIGN shall consist of the determination of the materials, size, shape, strength and relative position of structural members.

B. IN MAKING THE DESIGN the Structural Engineer shall be governed by the recognized and accepted principles of modern sound engineering practice in addition to the limitations and restrictions of a particular building code.

C. PROPER CONSIDERATION shall be given to the effect of continuity and fixity of structural members.

D. PROPER CONSIDERATION shall be given to the various possible distributions of live loads.

E. FOUNDATION DESIGN shall be based on the results of a careful study and elevation of the resistance of the supporting soils on which the structure is to rest.

F. THE SAFETY OF THE STRUCTURE shall be the major consideration in the design. Economy shall be effected wherever feasible, within the limits of the structural and architectural designs.

G. THE STRUCTURAL ENGINEER shall keep an adequate and orderly record of the design computations. This record shall identify the designed members and shall show the assumptions as to applied loads and other factors used in the design.

Section IV—Structural Drawings.

A. GENERAL.

1. The drawings furnished a client by a Structural Engineer shall illustrate the details of the structure in such a manner that the structural members may be correctly and efficiently installed and erected.

2. The drawings shall be clearly and neatly made to a scale sufficiently large to accurately show the form, location, both horizontally and vertically, the kind of material and the identification marks of all the structural members, together with notes pertaining thereto.

3. It shall be the duty of the Structural Engineer to see that the structural drawings are correlated with those of the Architects and Mechanical Engineers. The location of pipe sleeves, thimbles, hangars, brackets and supports, or of anchors for mechanical equipment and minor architectural trim, need not be shown on the structural drawings unless their exact location bears an important relation to the structural design.

4. A full schedule of all the working unit stresses employed in the design or a reference to the particular building code governing the design shall appear on the drawings.

5. If designed to resist wind or earthquake forces the assumed intensity of such forces shall be noted on the drawing.

6. In general the structural plans and drawings shall consist of:

a. A foundation plan.

b. A framing plan of each different floor, roof or framed level.

c. Column details or schedule.

d. Beam details or schedule.

e. Details of penthouse, stair framing, or any other details, schedules or notes necessary to readily and correctly interpret the drawings.

B. FOUNDATION DRAWINGS.

In addition to the general conditions of this Section the foundation drawings shall show:

1. The location of property lines and building lines.

2. The location of the columns and walls at the level of the top of foundation.

3. The location of each pit, sump, or tunnel below the ground floor level.

4. Schedules and details showing:

a. Dimensions of the foundations.

b. The sustained load at the top of each foundation.

c. The location and size of reinforcing steel.

d. Details of grillages.

e. Details of sumps, pits, and tunnels.

5. Notes covering:

a. Assumed soil pressure used in the design and the character of the foundation material.

b. Finished grade outside and adjacent to the structure, and inside the structure where paving is not used.

c. Elevation of floors resting on the soil.

C. FLOOR FRAMING DRAWINGS.

In addition to the general conditions of this Section the floor framing drawings shall show:

1. The location of the property lines and building lines at the level at which the plan is taken.

2. The location in plan and elevation of every structural member at or near the floor level at which the plan is taken.

3. The location of columns and walls at the elevation at which the plan is taken.

4. The location of each framed opening through the floor.

5. The character and thickness of the floor surfaces.

6. The size, weight, and section of all steel beams.

7. The location, size, and method of anchorage of all structural steel masonry supports.

8. Identification marks for all concrete framing members.

9. Details of structural members in the vicinity of the elevation at which the plan is taken, as required to properly illustrate the work.

10. Schedules, details or notes covering.

a. Typical connections of steel beams.

b. Special connections of steel beams.

c. Rivet and bolt sizes.

d. Concrete slabs, beams and other concrete structural members, including:

(1) Cross sectional dimensions of the members.

(2) Load, shears or reactions.

(3) Maximum bending moments.

(4) Size, location, length and bending for reinforcing bars.

(5) Size and location of stirrups.

D. Column Schedules or Drawings:

1. Column schedules or drawings shall show the total calculated load at each story for each column in the structure.

2. Structural steel column schedules or drawings shall show the size, weight, section and length of each tier of each column. All column splices shall be located and their detail fully determined by drawings, schedules or notes. The size, detail and anchorage of each column base or bearing plate shall be shown.

3. Concrete column schedules or drawings shall show the overall size of the rough column, the core size, the number, size and length of the vertical bars, the size and spacing of ties or spiral reinforcement, and the number, size and length of dowel bars. Special, unusual or irregular column shapes, and unsymmetrical bar arrangements shall be detailed.

E. Trusses and Arches:

1. Trusses and arches shall be so detailed that they may be accurately constructed and erected.

2. The stress diagrams for the complete graphical analysis shall be shown and the force scales indicated.

3. The magnitude and sign of the total stress in each member shall be on the drawing.

4. Statically indeterminate trusses and arches shall be accompanied by bending moment diagrams on which the magnitude and sign of the maximum moments shall be shown.

F. Stairs:

Each different stair shall be detailed. The details shall include:

a. Number of steps.

b. Rise and run of each flight.

c. Stringer and landing beams.

d. Slab thickness and reinforcement for concrete stairs.

e. Treads and connection details for steel stairs.

G. Walls:

1. All reinforced concrete bearing walls and all other walls which carry load other than their own weight shall be shown in sufficient detail, either by drawings, notes, or schedules, to clearly indicate the material, thickness, height, length, offsets, batter, inclination, reinforcing, and other features important to their stability and necessary for their construction.

2. Non-bearing walls, including partitions and filler walls other than reinforced concrete, need not be shown in detail.

3. Where both architectural and structural plans are prepared for a building, the window and door openings need not be located on the structural drawings unless the walls have been designed as structural members.

4. Lintels over openings in masonry walls may be located by reference to the architectural plans.

Section V—Structural Specifications.

A. The Structural Specifications shall state:

1. The kind and quality of materials.

2. The testing requirements.

3. The proportions of mixtures.

4. The general methods of fabrication, erection and installation.

5. The requirements governing the protection of the work in place.

6. The preparation and location of surfaces at which concrete pouring may be temporarily stopped and the provisions for continuing the work.

B. The Structural Engineer shall not specify any definite make or brand of material or any patented method of construction without the knowledge and consent of his client or without a provision for the substitution of satisfactory alternates.

Section VI—Review and Check of Structural Design, Drawings and Specifications.

A. The Services to be rendered under this heading shall vary depending upon the purpose for which it is desired. This work shall be executed without prejudice or bias as to personnel or materials.

B. The Report on such a check or review shall clearly differentiate between differences of opinion, if such are stated, and errors of calculation. It shall also state the purpose for which the check has been made, whether the check has been general, detailed in part, completely detailed, for safety only, for compliance with a particular building code, for accuracy of dimensions or for economy of construction.

Section VII—Supervision:

Supervision is defined as the intermittent examination of the construction work at critical periods during the building of a structure and the issuance of instructions governing the conduct of the work.

Section VIII—Inspection:

Inspection of construction work is defined as the complete detailed superintendence of the structural materials and workmanship entering into a structure.

Continued on Page 63, Column 2]

« « « « With the Architects » » » »

ARCHITECT GUTTERSON BUSY

Henry H. Gutterson, 526 Powell Street, San Francisco, reports quite a little work in his office, including a two story frame residence to be built on 21st Avenue near Lake Street, San Francisco, for M. S. Nickelsburg; a stucco residence in Davis, Yolo County, for Dr. Stanley Freeborn of the State Agricultural College, and a two story residence in St. Francis Wood for T. H. Parramore.

CONCRETE DAIRY BUILDING

Plans are being completed by W. H. Toepke, Call Building, San Francisco, and Otto G. Hintermann, associated, for a group of structures, including a reinforced concrete dairy building, on Potrero Avenue, between 25th and Army Streets, San Francisco, for the Dairy Delivery Company. More than $300,000 will be expended on this enterprise.

EMPORIUM ALTERATIONS

Bids have been taken for some extensive alterations to the Hulse-Bradford Building in the rear of the Emporium, 4th and Market Streets, San Francisco. A portion of this structure will be occupied by the Emporium and a bridge will connect the two structures over Stevenson Street.

ADDITION TO MAUSOLEUM

Will P. Day, architect, 405 Montgomery Street, San Francisco, has completed plans and a contract has been awarded for a reinforced concrete addition to the Mountain View Mausoleum, Piedmont Avenue, Oakland. The building will cost $90,000.

$20,000 INDUSTRIAL BUILDING

Dodge A. Riedy, architect, Pacific Building, San Francisco, has completed plans and bids have been received for a $20,000 industrial building for the QRS Neon Corporation at 19th Street and Potrero Avenue, San Francisco.

COUNTY HOSPITAL ADDITION

A $40,000 two story brick addition will be built to the county hospital at Hanford from plans being prepared by Ernest J. Kump, architect in the Rowell Building, Fresno.

WILL DESIGN COUNTY JAIL

Albert F. Roller and Dodge A. Riedy have been appointed associate architects to assist in preparing plans for the new San Francisco city and county jail to be erected on the Sneath ranch in San Mateo county. The appointments were made by the Department of Public Works, W. H. Worden, director. Work on the plans is to start at once.

ADDITION TO NEWSPAPER BUILDING

The Sacramento Bee will have a three story Class A addition to its newspaper plant, plans for which have been prepared by William F. Coffman, Forum Building, Sacramento. Mr. Coffman's office has also turned out the plans for a new $250,000 Junior High School building in the Capitol City.

SAN FRANCISCO RESIDENCE

Milton W. Morrison, architect, 601-42nd Avenue, San Francisco, has designed an attractive Colonial home to be built on Carolina Street, south of 20th, San Francisco. Mr. Morrison has also made plans for a house in St. Francis Wood and a ranch house at Liberty Island, near Rio Vista.

SAN FRANCISCO APARTMENTS

A three story and basement frame apartment building will be erected on the west side of Pierce Street, south of Hayes, San Francisco, from plans by Irvine & Ebbets, 2048 Market Street, San Francisco. T. I. Strand, 471 Colon Street, San Francisco, is the owner.

BRICK AUDITORIUM

A one story frame and brick veneer auditorium to cost $15,000 will be built by the Richmond Union High School District at El Cerrito. Plans were prepared by Louis S. Stone, architect, of Oakland.

CENTERVILLE MORTUARY

Miller & Warnecke, Financial Center Building, Oakland, have completed drawings for a one story stucco mortuary to be built at Centerville for F. Bothelo. The cost is estimated at $8500.

ARCHITECT SUES COUNTY

The supervisors of Placer County have been served with summons by Sheriff Elmer Gum in a $4,500 suit brought against Placer County by W. H. Weeks, architect, of Oakland and San Francisco, who was dismissed as county hospital architect by the supervisors.

The suit was filed in Alameda County. It is alleged in the complaint that Mr. Weeks performed services valued at $4,500 for the county. It is thought a change of venue to Placer County will be sought by the supervisors.

Mr. Weeks first was designated to draw plans for the new county hospital unit by the supervisors. Later he was notified his services would no longer be required, and W. C. Coffman of Sacramento was appointed architect. According to county officials when Mr. Coffman accepted the position he offered to settle with Mr. Weeks should the latter have any claim against the county, and posted a $2,000 bond to guarantee his promise.

EXHIBITION OF STUDENTS WORK

The work of students of the School of Architecture of the University of Southern California was featured in a special display in the Architects Exhibit, Fifth and Figueroa Streets, Los Angeles, the latter part of April. All types of work were included in the exhibit which was held under the direction of Dean Arthur C. Weatherhead.

PORTLAND COURT HOUSE

Lawrence, Holford, Allen and Bean, architects, Failing Building, Portland, have completed working drawings for a two story Class A courthouse to be built in Portland for Tillamook County. Approximately $200,000 will be expended.

SAN JUAN PAROCHIAL HOUSE

Irving F. Morrow, de Young Building, San Francisco, is preparing plans for a parochial residence in San Juan, Monterey County, for the Mission Catholic Parish. The design will be in the Mission style.

PALO ALTO POST OFFICE

Plans are practically completed in the office of Birge M. Clark for a new post office building in Palo Alto. Bids for the $135,000 structure are expected to be advertised early in July.

PERSONALS

Edward W. Maybury of the firm of Marston & Maybury, Pasadena, has been elected president of the Pasadena Chamber of Commerce. He served as a member of the board of directors during the last year and has been active on committees for a number of years.

William Mooser Co., architects, 681 Market Street, San Francisco, has opened an office in the Chamber of Commerce Building 1151 South Broadway, Los Angeles, with William Mooser, Jr., acting as resident architect.

A. M. Edelman of Los Angeles, represented the California State Board of Architectural Examiners at the annual meeting of the National Council of Architectural Registration Boards at Washington, D. C., April 26.

Rexford Newcomb, for the past fourteen years Professor of the History of Architecture at the University of Illinois, has been appointed by the Board of Trustees of that institution as Dean of the newly established College of Fine and Applied Arts.

C. H. Wallwork and Fred Aandahl, Portland architects, have been named members of the Board of Reference, recently established through the efforts of the Oregon Building Congress. The duties of the board are to formulate and publish rules of fair practice in the construction industry.

Ernest T. Mock and Nelson J. Morrison, architects of Tacoma, announce that the firm will hereafter be known as Mock and Morrison in place of Hill, Mock and Morrison.

George W. Groves, architect of Seattle, has opened an office at 732 Republic Building. He formerly was draftsman and supervisor for George W. Stoddard.

OPENS SEATTLE OFFICE

Nicholas A. Kabush, architect, has opened an office at 621 Lumber Exchange Building, Seattle. He is a graduate of the School of Architecture at the University of Southern California and received practical training in the offices of Pierrepont and Walter Davis, and Edgar Cline, Los Angeles.

PACIFIC GROVE CLUB HOUSE

An informal competition, participated in by architects of Monterey County, was recently held for a community club house at Pacfiic Grove. The plans of William O. Raignel were accepted.

ARCHITECTURAL EXHIBITION

The Biennial Architectural Exhibition, held under the auspices of Northern California Chapter, A. I. A., has been in full swing at the De Young Gallery in Golden Gate Park since the early part of May. An exceptionally large and choice display of photographs and drawings make this exhibition one of the best held in recent years. R. I. Stringham acted as chairman of the Exhibit Committee, the other members of which were John Knox Ballantine, Jr., Fred'k. H. Reimers, Geo. R. Klinkardt, Edward L. Frick, Edwin Lewis Snyder, Ellsworth Johnson and W. I. Garren.

JURY NAMED

Arthur L. Loveless and David J. Myers of Seattle will collaborate with Charles H. Alden, professional advisor, in selecting the winning entries in the interior design competition sponsored by the Douglas Fir Plywood manufacturers. Entries in the contest, which calls for interior room designs showing practical uses of Douglas fir plywood in walls, ceilings and built-ins, and in one-room camp cottage construction, will be accepted until June 15th. The winners will be announced in August.

SAN FRANCISCO RESIDENCE

John J. Foley has prepared plans for a two story and basement frame brick veneer residence for Dr. Taylor at Chestnut and Kearny Streets, San Francisco. The house will have a tile roof and will cost $25,000.

$30,000 HOME

Whitehouse and Price, architects, Spokane, Washington, are preparing plans for a new home for Chi Omega sorority, estimated to cost $30,000, which will be erected this summer near the Washington State College campus at Pullman.

ARCHITECTS JOIN FEDERATION

The registered architects of Oregon have become members of the Oregon State Federation of Professional Societies. Ernest Kroner, J. E. Tourtellotte and Margaret Fritsch were appointed delegates to society meetings.

$16,100 BERKELEY HOME

Newsom and Newsom, Russ Building, San Francisco, have designed a $16,000 home to be built on Arlington Avenue, Berkeley, for R. A. Halloran.

FOR DISTINCTIVE ARCHITECTURE

Charles O. Reid, Percy A. Powell, J. Wesley Shrimp, S. L. Herrick, Robin D. Skelley, Harry W. Hammond and G. Stanley Wilson constitute the architectural advisory board of Riverside, appointed by President Gore of the Chamber of Commerce, which is inaugurating a movement to encourage the use of a "distinctive architecture appropriate to the atmosphere of Riverside." The architectural advisory board will be an educational group, its duty being to impress upon the public the advantage of good architecture and particularly of a distinctive type for the city.

DESIGNING SMALL HOMES

Max A. Van House, architect in the Central Building, Seattle, is designing six cottages and residences for Sparkman and McLean, pioneer Queen City realty firm. The houses are of English and Norman design, brick veneer construction and ranging in size from five to eight rooms.

STRUCTURAL ENGINEERS ADOPT CODE OF STANDARD PRACTICE

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Section IX—Research Investigation and Reports:

SINCE THE SERVICES coming under this heading vary in extent and magnitude with the purpose for which they are made; the report shall indicate the degree of thoroughness with which the services have been rendered. Opinions shall be classified as to whether they are based upon judgment, experience, mathematical calculation or reference to other authority.

Section X—Letting and Drafting of Construction Contracts.

A. THE LETTING of construction contracts consists of the preparation of bid forms, the selection of bidders, the analysis of bids received and the awarding of the contract.

B. THE DRAFTING of construction contract consists, in addition to other items, of a detailed statement of the reciprocal relations between the Owner, Architect and Structural Engineer, the labor to be performed, the materials to be supplied, the time agreed upon for the completion of such work, the responsibility of the Contractor, and the amount and manner in which the Contractor is to be paid for the materials furnished and the labor performed.

C. THE SERVICES of the Structural Engineer shall not include responsibility for the legal phrasing of contracts and bid forms made under his supervision.

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PORTLAND OVERCOMES DEPRESSION

When Civic organizations and the various branches of the construction industry in Portland, Oregon, a few months ago, developed "The Portland Plan" for stimulating construction and general business activity in the Rose City, the sponsors really "started something."

The original objective was to pledge Portland citizens to spend approximately $5,000,000, mostly on building, remodeling and redecorating.

Up to April 6, the campaign for pledges had gone over the top by more than 100%, totaling more than $10,479,554. Most of this is construction and is in addition, of course, to such projects as the new Portland Federal building, the Irvington School, Commonwealth Trust and Title Building, Art Museum, Hahnemann Hospital, city incinerator, the postoffice at St. Johns and other public buildings, which will cost about $3,000,000.

The campaign was directed by the Civic Service Bureau which is governed by a board of directors, including the Oregon Chapter, A.I.A., the A. G. C. of A., Builders Exchange, Building Material Dealers Credit Association, Portland Building Dealers Credit Association, Oregon Building Congress, and organizations of lumbermen, bankers, property owners, realtors, public utilities, Chambers of Commerce and the state, county and city governments.

In Portland, the campaign is credited with much of the responsibility for an increased building program for 1932.

A remodeling program is under way in Oakland and considerable work has developed for the unemployed as a result.

HOME BUILDING DRIVE

The home building drive, sponsored by Seattle Building and Allied Industries, was the dominant topic of the monthly dinner meeting of the Washington State Society of Architects April 14, at the Y. W. C. A. Other business was reported by President John S. Hudson on the progress of the initiative petition for the survey of the proposed low level Cascade Tunnel.

NEW SALEM BUILDING

F. A. Legge, veteran architect of Salem, and his son, Kenneth Legge, with offices in Portland, have been retained to design replacements for the Breyman and White buildings, destroyed in a recent fire at Salem.

IN NEW LOCATION

Offices of the California State Board of Architectural Examiners, Northern District, formerly located in the Phelan Building, are now located in the State Building Annex, 450 McAllister Street, San Francisco.

MOST BEAUTIFUL BUILDING

"Modernism in architecture has come to stay, but the profession displays no intention of repudiating its masterpieces of an earlier day," it was stated orally to the United States Daily at the Treasury Department in Washington in behalf of the American Institute of Architects after 50 prominent architects had participated in a poll to select America's most beautiful building.

The Lincoln Memorial in Washington and the Empire State Building in New York were selected by the architects' votes as the first and second most beautiful structures.

The State Capitol Building in Lincoln, Neb., won third place and the J. P. Morgan Library in New York fourth place. The Scottish Rite Temple in Washington and St. Thomas Church in New York were fifth and sixth respectively, according to the oral information.

Additional information furnished follows:

While such a poll can not be relied upon to fix the absolute order of the buildings in point of merit, it is of interest as showing which buildings are considered by experts as forming a group representative of the best American architecture.

Two conclusions are drawn from the vote: First, that the architects have no desire at present to cast aside the outstanding achievements of the past; and, second, that design in the modern manner, if intelligently worked out, has a steadfast foothold. Of the first eight buildings on the final list, five are in historic styles and three are classed as modern.

The Empire State Building, the Nebraska State Capitol and the Chicago Daily News Building won places with such traditional leaders as the Lincoln Memorial and the Columbia Library, not because they are in the modern style, but because they are in the modern style well done. The fact that they are extraordinarily well designed as to mass, ornament and relation of parts was perhaps more important than their modernism.

No restriction of any sort was placed upon the voting. The 50 architects were not required to name only American buildings, but nearly all the buildings receiving votes are in this country. The list of buildings receiving more than one vote and the total number of votes they received follows:

The Lincoln Memorial, Washington, 17; Empire State Building, New York, 14; Nebraska State Capitol, Lincoln, Neb., 13; Morgan Library, New York, 11; St. Thomas Church, New York, 9; Scottish Rite Temple, Washington, 9; Chicago Daily News Building, Chicago, 8; Columbia University Library, New York, 7; Harkness Memorial Buildings, Yale University, 7; Folger Memorial Library, Washington, 5; Pennsylvania Railroad Station, New York, 5.

Palmolive building, Chicago, 4; Pan-American building, Washington, 4; City Hall, Stockholm, Sweden, 4; Woolworth building, New York, 4; Shelton hotel, New York, 4; City Hall, New York, 3; Freer Gallery, Washington, 4; Boston Public Library, Boston, 4; New York Telephone building, New York, 3; Chicago Tribune building, Chicago, 3; St. Vincent Ferrier Church, New York, 3; Princeton dining hall, Princeton, 2; Adler Planitarium, Chicago, 2; Cranbrook school, Cranbrook, Mich., 2.

Academy of Science, Washington, 2; U. S. Army Supply Base, Brooklyn, 2; United States Capitol, Washington, 2; St. Bartholomews Church, New York, 2; Southern Railroad building, Washington, 2; Bowery Savings Bank, New York, 2; Cornell University medical unit, Ithaca, 2; United States Treasury, Washington, 2; Racine County courthouse, Racine, Wis., 2.

MILLS COLLEGE

Oakland, California.

W. H. Ratcliffe, architect.

A complete presentation of all the new buildings which comprise this nationally known educational group, will appear in THE ARCHITECT AND ENGINEER for June.

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UNLICENSED ARCHITECTS CANNOT RECOVER FOR SERVICES RENDERED

ACCORDING to a recent ruling by the California Appellate Court a corporation cannot recover for services in preparing preliminary plans for a building when such plans are drawn largely by unlicensed architects and the client has not been informed thereof as required by the State law regulating the practice of architecture. In the case at issue the corporation had a licensed architect in charge of its architectural department but evidence showed that the time given by him to supervise the work was very limited. It was not indicated by the court what would have been required to satisfy provisions of the law under the circumstances.

The title of the case was Meyer & Holler, a corporation, vs. H. D. Bowman, appeal from a judgment of nonsuit awarded in the superior court of Los Angeles county by Judge Hugh J. Crawford. District Court of Appeals, Fourth District. Civ. 532. Judgment affirmed. The case will not be further appealed.

The suit involved the preparation of preliminary plans for a building to be used by the Pasadena Furniture Company. Meyer & Holler started work on the plans in September, 1923, and ceased work on them in March, 1924.

In its opinion, written by Presiding Justice Barnard, and handed down February 19, 1932, the court says:

"This action was brought to recover for services rendered in preparing preliminary plans and specifications for the erection of a building. In a first cause of action it is alleged that the defendent employed the plaintiff to prepare the design, drawings, plans and specifications, and estimate the cost of the building hereinbefore referred to, and to do all the engineering, architectural and other work preliminary to and in connection with the construction of said building, and agreed to pay the plaintiff for said work an amount equal to the actual cost thereof, plus fifty (50%) per cent of said actual cost. In a second cause of action the plaintiff seeks to recover the reasonable value of the same services. At the conclusion of the plaintiff's case, including the proffer of certain evidence, a judgment of nonsuit was entered, from which this appeal is taken.

"The first question presented is as to whether the appellent is barred from a recovery by the provisions of the act regulating the practice of architecture (Stats. 1901, p. 641), and the amendment thereto. The appellant is a corporation. Upon its letterhead appear the words 'Architecture, Engineering and Construction'. It appears from the evidence that neither Meyer nor Holler, who are the principal officers of the corporation, were certified architects, and there is no evidence that any stockholder or officer connected with the corporation was a certified architect.

"In a bill of particulars which was furnished it appears that 22 persons worked 1288 hours in preparing the plans and specifications which are the basis of this action. Only one of these persons, a Mr. Wilkinson, was a certified architect, and it appears that he worked only 43 hours of the 1288 hours devoted to the preparation of the plans and specifications here in question. It is conceded that the defendant was never informed that the plaintiff was not a certified architect nor that the work would be done by other than certified architects. While Mr. Wilkinson testified that he was in charge of the corporation's architectural department and that the work was done under his supervision, the bill of particulars furnished shows that the principal expense was for drafting during certain weeks and that during a number of these weeks no charge was put in for Mr. Wilkinson's time.

"In Force vs. Hart, 209 Cal. 600, 289 P. 828, 830, the court said: 'Neither plaintiff nor Davis, who was employed by him to draw the plans and specifications, was certified as required by said act. The act provides that it shall be a misdemeanor for any person to practice architecture without first having obtained a certificate to so practice, "provided, that nothing in this act shall prevent any person from * * * furnishing plans or other data for buildings for other persons, provided the person so furnishing such plans or data shall fully inform the person for whom such plans or data are furnished, that he, the person furnishing such plans, is not a certificated architect." Section 5. There is no evidence in the record that defendant was informed that the plans were to be prepared by an unlicensed architect. A con-

[Continued on Page 71]

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This Month: New wage scale being enforced by organized labor. Structural steel lower.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

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Common, $27 to $33 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
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Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

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Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs	1.75 per ton
Washed gravel, at bnkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.40 per bbl.
Cement (f.o.b. Job, Oak.) $2.40 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Latb	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$106.00 M ft.		
1 1-16x2¼" T & G Maple	135.00 M ft.		
⅞x3½ sq. edge Maple	122.50 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$168 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	96 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	16c ft.	16c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.2[illegible]
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.60
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.
Sash weights cast iron, $45.00 ton	
Nails, $2.85 base.	
Belgian nails, $2.60 base.	

Millwork—
O. P. $72.50 per 1000. R. W., $76.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Lahor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE — Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 85c per gal, in cans and *9c per gal. in drums.
Raw Linseed Oil—71c gal. in bbls.
Boiled Linseed Oil—72c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	12¾c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90
Wood lath, $4.00 per 1000.	
2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28
¾-inch hot roll channels, $72 per ton.	

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 6 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq.-ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$74 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $65 to $70 ton cost of steel, average building, $70.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caisson workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

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tract for architectural services to be performed in violation of the terms of the statute is void. Binford v. Boyd, 178 Cal. 458, 174 P. 56; People v. Allied Architects Ass'n., 201 Cal. 428, 257.

"In Binford v. Boyd, 178 Cal. 458, 174 P. 56, 58, the court said 'The act is effective upon corporations only to this extent that, if it undertakes to do business of that characer, either the persons whom it engages therein must be certificated architects under this statute, or, when contracting for plans and specifications for the erection of buildings for other persons, such persons must be informed that the plans and specifications will be prepared by some one who is not a certificated architect. The act does not prohibit a corporation from contracting to furnish to another person plans and specifications which are to be prepared by a third person who is a certificated architect. Nor is there anything in the object of the act, or the evils to be removed thereby, which would raise the necessary implication that it was intended to prevent such practice.

" 'The main object of the act, so far as furnishing plans and specifications alone is involved, was to secure the erection of buildings from plans prepared by those who were sufficiently schooled in the profession to secure a license from the State Board and who had complied with the state law by securing such license. But it was deemed best to qualify the absolute prohibition of the law by allowing the owners of property and persons who were not certificated architects, to contract freely with each other for furnishing such plans and specifications, provided the person furnishing the same informed the owner that he was not a certificated architect.

" 'It is obvious that, if such plans and specifications have been prepared by certificated architects, there could be no object in which the public is concerned which should prevent the sale thereof by the person who prepared them, or by some one to whom he has sold them. The act as a whole shows that it was not intended to prevent the sale of plans prepared by a qualified person, but to prevent their preparation by an unqualified person, unless the purchaser was informed of that fact. The act does not forbid a corporation to employ certificated architects, have them prepare plans and specifications, and then furnish such plans and specifications to other persons'.

"In Payne v. De Vaughan, 77 Cal. App. 399, 246 P. 1069, 1071, the court said: 'Under this statute there is but one way in which a person who has no certificate can legally render such architectural services as were to be performed by respondent. Such person can "inform the person for whom such plans or data are furnished that he, the person furnishing such plans, is not a certified architect." Therefore, if it be shown that the respondent practiced architecture, the burden is clearly upon him to prove that he brought himself within the exception just quoted by giving the appellant the required information. It is not contended that the respondent did this. Under such circumstances the task of the court is a simple one. It is merely to decide whether or not the work contracted to be performed constituted practicing architecture.'

"Appellant, while admitting the respondent was not informed of the true situation, and also admitting that the work was in a very large part performed by unlicensed architects, seeks to avoid the effect of this statute through the claim that Wilkinson, a licensed architect, was in charge of their architectural department and that the work was done under his supervision. It is argued that it is not the intent of the statute to prohibit a licensed architect from employing unlicensed and even non-professional help for such details as lettering, blueprinting and the like. Whatever might be held in that regard in a proper case, we think the circumstances here existing show an invasion of both the letter and the spirit of the act, which cannot be upheld. As stated in Binford v. Boyd, supra, this statute can only be upheld 'upon the theory that the Legislature believed that it was injurious to the public interest to allow unskilled and unqualified persons to prepare plans and specifications for the erection of buildings, owing to the damages which might arise from defects in plans or construction.' "

"It is perfectly apparent from the evidence that almost all of the work for which recovery is here sought was performed by persons who were not licensed as architects, and even the claim of supervision by a licensed architect falls, at least in part, by the showing made, since it appears that a charge was regularly made for the time put in by this certified architect, and it also appears that no such time was put in by him during several weeks when a large part of the work was being done by the other employees."

The court concludes, passing upon the first question, that under the terms of the statute and the circumstances shown by the evidence, the appellant was not entitled to recover. A second reason found by the court why appellant may not recover, appears in that no breach of the contract on the part of the respondent was shown. The court held the evidence did not show completion or delivery of the building plans or demand for payment thereof, as required to recover on specific contract for reasonable value of the work. For these reasons the judgment appealed was affirmed.

HOSPITAL CONTRACT ILLEGAL

In a decision handed down by Judge B. F. Curler the contract entered into by the General Hospital Board of Reno, Nev., with J. C. Dillard for the construction of the new county general hospital was declared illegal and in excess of the powers granted to the board. The opinion states in part:

"It is the opinion of the court that this contract entered into by Dillard with the board was illegal, and in excess of the powers granted to the board, because, as shown by the evidence in the case, there was favoritism shown by the letting of the contract, and in addition thereto, conditions not contained in the original bid were made, and the letting of the contract conditional upon these conditions, and the agreement to perform those several things, which is without the power or policy of the board.

"The contract was let, or rather, there was evidence introduced to the effect that the contract was let for a sum in excess of the money in the treasury. Mr. Dillard testified that he had been informed by his attorney that the contract was void for that reason, and he also further testified that finally the contract was cancelled, so there is nothing for an injunction to operate against. However, the court felt it was his duty to pass upon this matter, among other things, for the reason that it should be determined who should bear the costs of this case. The court is of the opinion that the action was a proper action, and that but for the cancellation of the contract by the board and Mr. Dillard an injunction would have had to issue to at least prevent the carrying on of the contract in the interest of the taxpayers, and that the taxpayers or plaintiffs are entitled to their costs in this suit."

Since the suit was filed the hospital directors abandoned the original plans for the hospital and let a contract to William Kennedy for the construction of a smaller hospital unit, and this work is now going on.

FIRST PLACE WINNER

Boris R. Leven, a student in the College of Architecture, University of Southern California, won first place in the annual bridge design competition held by the American Institute of Steel Construction. The problem was to design a highway grade separation bridge over a railroad crossing. Edward S. Okubo, from the same college, won second place in the competition, while third place went to Leslie E. McCullough, a student in the Department of Architecture, Iowa State College.

A. Lyall House, a student in the Department of Civil Engineering, Montana State College, was given honorable mention.

Chapter and Society Meetings

NORTHERN CALIFORNIA CHAPTER

The March meeting of the Northern California Chapter was held at the Engineers Club, San Francisco.

The meeting was held jointly with the Structural Engineers Association of Northern California.

L. H. Nishkian, President of the Association, called the meeting to order and in welcoming the members of the Chapter, spoke of the spirit of cooperation which is constantly becoming more manifested between the two groups.

Before proceeding with the program, each organization held a brief business session.

Mr. Gutterson conducted the meeting of the Chapter and the following business was transacted:

The minutes of the previous meeting were approved as published.

Record is made of the report which was rendered during the business session of the engineers relative to an effort which is being made to amend the State law dealing with boundary rights and lateral support from adjoining owners. The matter was referred to the Chapter for joint consideration.

A letter from the Western Art Book Company was referred to the board of directors for their recommendation.

Mr. Gutterson reported that the Educational Committee is completing a syllabus for the assistance of applicants appearing for license before the State Board of Architectural Examiners.

Following reports by Mr. Evers and Mr. Garren, and discussion, a motion was made by Mr. Roeth and seconded, that it be the sense of the Chapter that the Institute should withdraw its support of and affiliation with the Small House Service Bureau. The motion was unanimously carried.

Mr. Ashley spoke of the proposal which is before the Board of Supervisors to change the height limit of buildings in certain districts. The matter has been referred to the City Planning Commission. The opinion of the Real Estate Board and of the Chapter has been requested and will be reported at a later hearing before the Commission.

Messrs. John B. Leonard, Abe Appleton and Henry J. Brunnier contributed a recital of the past, present, and future relationship between architects and engineers. The talks were enlivened with considerable wit and repartee in spite of the serious vein intended.

What Goes Into a House

AN OUTLINE CHECK LIST FOR CONVENIENCE OF THE ARCHITECT AND HIS CLIENT

GENERAL REQUIREMENTS

SITE
- Location and size — Orientation
- General plot survey — Service connections

OCCUPANTS
- Number in family
- Approximate ages
- Activities
- Servants

COST AND FINANCING
- Amount client wishes to spend
- Cash available
- Method of financing

ARCHITECT'S FEE
- Percentage on total cost
- Fixed fee — Cost, plus fee
- Four times cost of draftsmen's time
- Twice cost of draftsmen's time plus fee
- Combinations or variations of above

ROOMS REQUIRED (Including size)

First Floor
- Living room — Sun room
- Dining room — Hall
- Kitchen — Coat closets
- Pantry — Lavatory
- Breakfast room — Porches
- Library — Loggias
- Study — Terraces

Second Floor
- Bedroom— — Other bedrooms
  - Bath — Baths
  - Dressing room — Dressing rooms
  - Closets — Closets
- Bedroom for— — Nursery
  - Bath — Playroom
  - Dressing room — Sewing room
  - Closets — Linen closets
- Sleeping porches

Third Floor or Attic
- Bedrooms — Play room
- Bath — Hobby room
- Servants' bedrooms — Storage
- Servants' bath

Cellar
- Storage — Heater room
- Fuel storage — Hobby room
- Cold room — Laundry

Garage
- Attached — Number of cars
- Unattached

Auxiliary Buildings

FOUNDATIONS
- Materials, Stone, Concrete, Brick — tegral, surface or membrane
- Damp-proofing; Waterproofing, in- — Drain tile

FRAMING
- Wood, Steel — Masonry and Steel

MAIN WALLS
- Materials: Brick, Stone, Wood Concrete, Terra Cotta, — Stuccoed, Other Furring; Wood, Tile

ROOF
- Materials — Flashing
- Waterproofing — Leaders and gutters

CHIMNEYS
- Materials, Throats, — Dampers

WINDOWS
- Type (Double hung, casement, etc) — Screens
- Material (Wood, metal) — Blinds
- Storm sash
- Weatherstripping

EXTERIOR TRIM
- Materials

PAINTING
- Whitewash — Color
- Stain

INTERIOR

PARTITIONS
- Bearing
  - Stud, hollow tile, brick, masonry block
- Non-bearing
  - Wood, wall board, glass, composition
- Movable
  - Collapsible, removable, screens

SPECIAL FEATURES
- Fireplaces — (Others that might affect size and shape of rooms)
- Built-in book shelves
- Built-in closets

LATHING
- Wood, metal, wall board

INSULATION (Heat and sound)
- Method and material

HARDWARE
- Required Pieces — (List made by rooms)
- Style
- Finish

SANITARY EQUIPMENT

WATER SUPPLY
- City service — Pumps, storage,
- House system — pressure tanks

PIPING
- Steel, galvanized, brass, wrought iron

SEWAGE AND DRAINAGE
- Connection — Rain water drains
- Street sewer — Septic tank
- Footing drains — Cesspool

BATHROOM FIXTURES
- Material, type, color — Faucets
- Lavatory — Mixing valves
- Tub — Medicine cabinets, etc.
- Shower — (List for each bathroom)
- Water closet

KITCHEN FIXTURES
- Sinks (Kitchen and pantry) — Double and single drainboard)
- Color — Faucets
- Type (One and two compartment, — Mixers
- Dishwasher

GAS FITTING

FIXTURES
- Kitchen range — Gas logs
- Hot water heaters — Emergency outlets
- Laundry stove

PIPING
- Local regulations — Gas range vent
- Code test

HEATING AND VENTILATING

TYPE OF PLANT
- Warm air
  - Forced, gravity circulation, air conditioning
- Steam
  - One-pipe, two-pipe, vacuum, vapor
- Hot water
  - Forced or Gravity Circulation
- Room heaters
  - Individually fired radiators
  - Radiant heaters

FUEL
- Coal, coke, gas, oil, electricity

RADIATORS
- Type
  - Direct, indirect, concealed, cabinet
- Material
  - Cast iron, copper, aluminum, brass

THERMOSTATS

HUMIDIFIERS

OZONATOR

ELECTRICAL EQUIPMENT

OUTLETS (List made by rooms)

Ceiling Fixtures . . . Wall Brackets . . . Floor Lamps . . . Fans . . . Electric Clocks . . . Reading Lamps . . . Vacuum Cleaners Percolators . . . Cigar Lighters . . . Tea Samovar . . . Chafing Dish . . . Phonograph . . . Radio . . . Electric Piano . . , Toaster . . . Grill . . . Egg Cooker . . , Mixers . . . Iron . . . Washer . . , Ice Cream Freezer . . . Hair Dryer . . . Curling Iron . . . Massage . . . Heating Pad . . . Violet Ray . . . Radiator . . . Shaving Water Heater . . . Immersion Heater . . . Sewing Machine . . . Milk Warmer . . . Sterilizer . . . Toy Transformer . . . Plate Warmer . . . etc. . . . etc. , , , etc. , , ,

BELL SYSTEM

ANNUNCIATOR

TELEPHONE

BURGLAR ALARM

FIRE ALARM

RADIO WIRING

SERVICE EQUIPMENT

CABINETS
- Kitchen, Pantry — Type, Size

KITCHEN RANGE
- Coal, Gas, Electricity

REFRIGERATOR
- Ice, Electricity, Gas — Mercury vapor

BUILT-IN CABINETS

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DUMBWAITER

Professor Jacobsen of the Physics Department of Stanford University told of experiments which have been made there to determine the action of earthquakes on buildings. Moving pictures illustrated the effect upon models when placed upon a shaking table which was subjected to motion most nearly simulating the motion produced by earthquakes.

OREGON CHAPTER APRIL MEETING

The regular monthly meeting of Oregon Chapter, A. I. A., was held in the office of A. E. Doyle & Associates at Portland, April 19. Those present were Messrs. Doty, Sundeleaf, Aandahl, Parker, Bean, Jones, Legge, Johnson, Knighton, Whitney, Cone, Johnston, Tucker, Brookman, Hemenway, Jacobberger, Crowell and Belluschi.

The meeting was called to order by President Doty. Mr. Aandahl made a report for the Publicity Committee outlining their plans to publish prominent local buildings in the newspapers.

A letter was read from the Utah Chapter relative to Ashton's candidacy for the Regional Director for the Western Mountain Division. A motion to endorse him and notify the Chapter delegates was made and passed.

Mr. Parker moved that Mr. Johnson be elected manager of the Golf Tournament for 1932, with suggestions as to bracket system, etc. The motion passed.

Nat Gaillard Walker's letter regarding financial organization of architects was read by President Doty. Copies were ordered made for each member.

The business meeting was followed by a discussion of roofing problems led by Mr. Johnston. Much interest was shown. Chairman Tucker of the entertainment committee served substantial refreshments in the drafting room, and the ping pong tables were well patronized.—W.H.C.

ARCHITECTURAL "CLINIC"

Portland takes the lead in the establishment of an architectural "clinic" in which the knowledge of members will be pooled on various knotty problems. A series of meetings are planned for the improvement of architectural methods.

Members will trade information on moot questions. Francis Jacobberger is chairman of the committee and other members are: Hollis Johnston, Ernest Tucker, W. H. Crowell and Fred Aandahl.

WASHINGTON STATE CHAPTER

The regular Chapter meeting was held at the Helen Swope tea room, Republic Building, Seattle, Thursday, April 7.

At the conclusion of the dinner the meeting was called to order by President Holmes. The minutes of the preceding meeting were read and approved as was also the report of the treasurer.

Before proceeding to the regular order of business the president introduced Chester J. Hogue of the West Coast Lumbermen's Association, who said in part:

"I want to remind you of the availability of seasoned lumber, when desired. This is the first project we took up together, and while there has not been much opportunity to take advantage of the offer of the mills to furnish seasoned lumber during the last year or so, the offer still stands. As a matter of fact, I find an increasing recognition on the part of the lumber industry of the necessity for providing seasoned lumber. I was interested the other day to learn that one of the Seattle mills is now carrying in stock, very nicely manufactured high grade framing, seasoned to a moisture content of not more than 15 per cent. We are now equipped with an electric moisture meter for determining moisture content of seasoned lumber, and this is available for such inspection.

"One of our projects allied with this matter is a moisture content study of lumber in various exposures in buildings in Seattle. This project is being carried on in cooperation with Mr. Naramore, architect for the School Board, and Mr. Fowler and Mr. Dow of the City Building Department. Monthly inspections of a number of buildings have now been carried on for four or five months, and the results are beginning to be cumulative. The investigation involves shrinkage, checking, and the probability of decay, as well as actual moisture content. So far this study seems to bear out our recommendations that a moisture content not exceeding 16 per cent will practically remove shrinkage.

"Progress is being made in the development of moisture resistant coatings so that when important items of wood have been brought to the proper moisture content they can be kept there. Exclusion of moisture is also a factor in preventing decay. Probably the first application of moisture resistant treatment would be to sash and frames, which between outside and inside exposure have the greatest range of moisture conditions to contend with.

"Progress is also being made in fire-resistant treatment. There are three effects of fire-resistant treatment: First, the formation through use of chemicals having a low melting point of a vitreous coating that excludes oxygen and partially in-

sulates; second, the release of non-combustible smothering gases; and, third, the cooling effect of release of some water of crystalization in some chemicals. Something over sixty different chemicals have been investigated and now the investigation is continuing into various combinations. The chemicals which have given the best results are the borates, phosphates, ammonium and sodium salts, and the chlorides. One interesting result in this study has been that of finding the great insulating property of wood. The most severe and longest continued fire seldom chars wood to a depth of more than 1 inch. It was known that the temperature dropped to normal within a short distance of this point, due to the insulating value of the wood and that there was a large area within, which was not affected in any way by the heat, but it was not known definitely within what distance this took place. Tests have shown, however, that it is not more than 1 inch, and that within a 12x12 post, for instance, charred to a depth of 1 inch, there still remains an area 10x10 having fully its original strength."

Following a report of the Institute Affairs Committee, Mr. Loveless moved that in the event that the continued endorsement of the Architects' Small House Service Bureau came up on the floor of the convention, that the Chapter delegates be instructed to vote against such endorsement. The vote on the motion resulted in a tie.

The president called upon Robert F. McClelland, first vice-president, to introduce the speaker of the evening, Tom Jones Parry.

Mr. Parry announced that he would talk on certain aspects of psychology as it affected and shaped men's lives. He admitted that the adage that everything depends upon what we think was an extreme but explained that the manner with which men meet the vicissitudes of life was not a matter of circumstance but of psychology.

The speaker told of the Freudian key and of the natural inclination of persons to base their lives upon wishes; he told of the concepts of Adler and of the pendulum of Chevral. Mr. Parry closed his most interesting address with a psychological analysis and study of the life of Abraham Lincoln, showing how the oft-quoted sentence of Lincoln's "the great desire of my life is to be worthy of the respect and affection of my fellow men," permeated the whole life of that great man and that, notwithstanding twenty-two political defeats, Lincoln reached the heights he had so long wished for.

PEBBLE BEACH HOUSE

Plans have been prepared by Witmer and Watson of Los Angeles, for a $25,000 country house at Pebble Beach, Monterey, for Mrs. Grace P. Douglas.

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WASHINGTON STATE SOCIETY

The regular meeting of the Washington State Society of Architects was held at the Y.W.C.A. on the evening of April 14.

Discussion revolved about the building permit ordinance proposed for Seattle, and the national A. I. A. convention.

Wm. J. Jones was appointed chairman of the committee in relation to the permit matter, with Otis S. Hancock, L. S. Hauser and M. A. Blair assisting.

The committee is co-operating with that of Washington Chapter of which Frederick Lockman is chairman.

The May meeting of the Society was held at the Y. W. C. A. on the evening of May 12.

TACOMA ARCHITECTS MEET

Discussion of the types of architecture dominating the buildings for the 1933 Chicago's World Fair featured the March 28 meeting of the Tacoma Society of Architects.

Qualities in design and equipment to be sought for the future school house supreme were brought out by George Gove, Ernest Mock and W. W. Durham.

On March 21 the program featured an Examination in Architectural History based on historic buildings in New York City. Guests included James M. Taylor, architect of Seattle, and "Bob" Durham, son of W. W. Durham of the Tacoma public school department.

NEW PRESIDENT NAMED

Henry J. Kaiser, Oakland, has been inducted as President of the Associated General Contractors of America, to succeed the late Colonel Wm. A. Starrett. The selection was made by the governing board at Washington, May 2. Mr. Kaiser is one of the builders of Hoover dam. Support for the retroactive repeal of the recapture clause of the transportation act, to relieve railroads of the country of an estimated liability of nearly $400,000,000 to the Government, is recommended to the membership of the association by the governing board.

PACIFIC AVENUE RESIDENCE

Warren C. Perry, 260 California Street, San Francisco, has let a contract to G. P. W. Jensen to build a two story frame residence on Pacific Avenue, near Divisadero Street, San Francisco, for Mrs. Grace Fairlie. Another house to be built on Pacific Avenue has been designed by Gardner A. Dailey for Henry Cartan.

BAY STATE PRODUCTS AVAILABLE

Sales activity is noted in Northern California of the Wadsworth-Howland Co., Inc., of Boston. This firm, a unit of one of the oldest corporations in America, has appointed the California Sales Company, Inc. of San Francisco, distributors of Bay State Brick and Cement Coating, for the Northern section of California.

The California Sales Company of which C. L. Tilden, Jr. is the President, will not only carry an extensive stock of Bay State products in San Francisco, but will immediately appoint agents in the various centers throughout the territory, thereby assuring prompt and efficient service and delivery.

Bay State Brick and Cement Coating is well known to the building industry as a special paint for a specific purpose, that of waterproofing absorbent masonry surfaces. As such it has proven its supremacy for thirty years or more and its advantages have never been duplicated by any other paint.

It has been used in many large industrial plants, public buildings, schools and homes. Its protection is lasting, in many cases holding up from ten to twenty years.

The architects and engineers in Northern California who have specified this coating in the past will, no doubt, be glad to learn that the material is again available.

BUILDING MATERIAL SPECIALIST

Oswald P. Shelley, formerly associated with Gunn-Carle & Company, has severed his connection with that firm, and has established a business of his own in the Call Building, San Francisco. Mr. Shelley is well known to the architectural profession and building industry, having been identified with the latter since the early days of Lilley & Thurston, building material specialists. Mr. Shelley will act as Northern California distributor for Kinnear rolling doors, Faralum safety treads and Security elevator doors. He expects to add other lines in the near future.

$150,000 OAKLAND MORTUARY

Blaine and Olson, architects, have prepared plans for a mortuary and chapel for the Truman Company to be built on Telegraph Avenue, Oakland, at a cost of $150,000. The chapel will accomodate 350 persons and a pipe organ will be featured.

RESIDENCE AND DINING CABIN

Recent work in the office of Albert H. Larson, architect of San Francisco, includes a $20,000 residence in San Francisco and a one story frame dining cabin to be built on the Bay Shore Highway for the Fat Boy Barbeque.

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BUILDING TRADES DISAGREE

At a meeting of the representatives of the various crafts affiliated with the Building Trades Council of San Francisco, the following resolution was approved and recommended for adoption by the Building Trades Council, which action was concurred in at the last meeting of that body:

"Be it Resolved by the Building Trades Council of San Francisco in regular session assembled this twenty-first day of April, 1932, that the Council hereby officially declares that the wage scales in effect on January 1, 1932, are the recognized wage scales of the Building Trades Council, and will continue to be the wage scales of the Building Trades Council until the end of the year 1932; and be it further

"Resolved, That a committee be appointed to give all necessary publicity to the fact that the wage scale in effect in the building industry of San Francisco on January 1, 1932, is the recognized scale of the Building Trades Council of San Francisco to be continued throughout the year 1932."

TERMITE INVESTIGATION

The Oakland city building department is conducting a termite investigation in old structures throughout the city.

W. C. Spencer, acting head of the building department, stated in a recent report to City Manager Ossian E. Carr that three inspectors are examining the foundations of old wooden buildings throughout the city, in order to ascertain if any damage has been done by the insects. Spencer said that at the end of this investigation, which is expected to consume several weeks, "we will be able to report with some accuracy if a building is infested with termites."

The termite, or boring worm, attacks underground wooden foundations and in time causes them to crumble.

BACK FROM WASHINGTON

Arthur Brown, Jr., has returned from Washington where he went on official business in connection with the calling for bids on three Federal buildings in Washington, designed in Mr. Brown's office. He also obtained approval of his preliminary plans for the proposed new Federal building in the San Francisco Civic Center.

SEATTLE ARCHITECTS' EXHIBIT

Seattle architects held an exhibition of their work on the fourth floor of the Frederick & Nelson department store, May 4 to the 14.

Preliminary sketches, perspectives and plans were shown as well as working drawings and models.

A LA MODE HORIZONTALE

By William Williams *in Pencil Points*

THE "modern" architecture has been called the "International Style" and this term fits it very aptly. Never before at any time in history has there been such a wide distribution of similarity in architectural design. Now this is an extraordinary thing, because it really belies a fundamental characteristic of art, that while it is and always has been international in its peregrinations from one country to another, it has always been assimilated and regurgitated, so that it goes into the mouth Italian and comes out Louis the French, or something like that. But in this case, in the case of "modern" architecture, it comes over from Holland (for example) and plumps itself down in California without so much as knocking an arris off a single corner. A building in Japan might be in France or Sweden or Russia—the "International Style" knows no international boundaries.

All this has been evident now for some time—at least since 1930—but it is not until there is an exhibition such as the one just held in New York at the Modern Galleries, that the fact is really driven home. But here it was as clear as day. Not only is the style international, it is intergeneric; that is to say, the old formular that a bank should look like a bank, etc., has been given the merry ha-ha. The only way to tell what a building is nowadays in this modern style is to snoop around and find out what is going on in it. If it houses hundreds of cars, it is probably a garage, if hundreds of kids are wandering around inside, then you will have to ask one of the attendants; it might be a school, or it might be a plant for the scientific production of unemotional bipedal automatons. But then again it might just be an asylum for juvenile delinquents —youngsters suspected of liking flowers and harboring affections for their parents!

But this confusion in not readily being able to determine the nature of the building was apparently foreseen—or perhaps it may exist among the designers themselves — however, everything at the exhibition was plainly tagged. Sometimes the tags, to subdue the skeptic, were embellished with imposing statistics, proving, so I heard (I could not read them myself) how three families could live as cheaply as one if this were a better and a different kind of world than it is. But, at any rate, everything was plainly tagged so that a "small house," for example, could not be mistaken for a greenhouse. Just the same it is very hard to dispel an illusion of that sort once it gets into the mind. And the question pops up at once: Who orders these miniature crystal palaces?

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There are few more uncomfortable places to wander around in, to say nothing of spending the night in, than a greenhouse. And when the greenhouse has nothing extraordinary to offer in the way of looks, you might just as well fill it up with plants again and leave it alone!

But seriously now, why be so awfully hygienic? Why all this letting of the weather in? Houses are built—or at least theoretically—to keep the weather out, and to a large extent they do this. But it is always by the allied forces of the furnace and the weather-strip. The warmest rooms in the winter are usually the ones with the fewest windows; similarly, the coolest in the summer. Women around this part of the country in the summertime have a habit of pulling the shades down to keep a room cool; the sun is not wanted streaming in the house. Neither in the winter are too many windows wanted, where the heat-loss coefficient is 1. Then what is the reason—or the rhyme, granting the absence of reason—for all this glass in a small house? We know of course that good ventilation is necessary, good light is necessary, and where there is a view it should be taken advantage of. But the first requirement is obtained by windows on two sides of a room. The second requirement is variable, depending upon the size of the room and the decorative treatment and the window hangings inside. The last, except for the *beau monde* who are never home to appreciate the view from their windows, is of course negligible. Then why all this glass? The modern architecture is supposed to be practical—but what about the window cleaning, the heating, the snow shoveling?—to say nothing about the very questionable stiffness of the walls carrying wide overhanging cantilevered projections to keep the sun off the terraces, and incidentally to throw the windows that seem to be so important (often whole sides of a room) in shadow!

How did they come into being—such houses? Certainly no owner with an eye to his comfort ever specified one in detail. And it begins to look as though we are "putting something over" on him. We have our ideas about architecture and we're going to sell 'em by gosh! Even if the man freezes some morning in his bathtub, or the wind comes up under the cantilever projections and rips the roof off, or takes the "Project for a Small House" for a flight.

But the small house was only a small part of the show. The exhibition as a whole dealt with more pretentious things, houses where the upkeep presumably could be disregarded. These houses on the lavish scale were simple in plan but rather intricate and complicated and, of course, frightfully sophisticated in elevation. So much takes place nowadays by the mechanic of the canti-

lever slab and beam that a plan, like the plan of a tree, gives no indication of what branches out of it above. And what branches out above some of these beautiful "open" plans is really amazing; for more complicated than one would suppose from the airiness of the plan below. They resemble somewhat, with their superimposed levels of terraces and the emphatic horizontals and thin supporting struts, the superstructure of some sort of sea-going pleasure craft. And apart from all considerations of their livableness, which after all would only be a matter of getting used to them, they are remarkably fine creations in design.

It was interesting to see a picture of the Robie House which Mr. Frank Lloyd Wright designed in 1908, and compare it with his Mesa House, designed in 1931. And it is obvious that Mr. Wright is still leading the pack by the nose. The Mesa House is an intriguing piece of work, truly architectural—in a grand way. But that it is free from sentiment is doubtful. The sentiment has simply taken other than the usual forms. Mr. Wright is too much of a Humanist to fall entirely in line with the idea that a house is a machine with the necessary corollary that anything not strictly *necessary* to a machine is an adscititious element detracting from its beauty and efficiency. Mr. Wright is too human to fall into this circumscribed point of view, and so the Mesa House, probably his major opus, sprawls around in a most impractical way—that is from the mechanico-efficient point of view—with yards and yards of terraces and passages.

But there is such a thing as being too cramped, just as there is such a thing as having too much space. There seems to be a quality in the human mind which associates comfort with a certain congestion and complexity in plan—the rabbit-warren idea. But then again people like to run down long passages and feel important. It takes a certain length before one can get a good stride, and a good stride is essential to dignity; whether the individual striding is the guest or the butler. And when the passages and terraces that tend to give dignity to the occupants also impart a dignity to the building, there is something to be said for them. Mr. Wright's designs have always this element of dignity about them; and the extraordinary stretch of the Mesa House gives it this quality, even if it had nothing else. And that is more than can be said for some of the building now being produced.

In modern architecture generally, that is, in the latest phase of it, which is entirely *a la mode horizontale*, romanticism has gone—not sentiment, because anything loved for its own sake is apt to be based on sentiment, and much of the new style is a mannerism loved for its own sake—but romanticism in the love-of-the-past sense, in the morbid

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adoration of ruins and things of that sort, is strikingly absent. But so, largely, is the sense of architectural form. In this style, as in all styles, there are the obvious masters. But most of the designs lack any appearance of conscientious effort to subordinate the parts for the whole, to compromise the plan at all for the sake of the resultant form. The Mesa House has form; so has Neutra's "Project for a ring plan school," and J. J. P Oud's "Project for a house at Pinehurst, N. C."; so has the Tugendhat House by Mies Van der Rohe, and the Savoye House by LeCorbusier & Pierre Jeanneret; and perhaps in one or two others there is this character that is the substance of architecture, the working out of the plan so that the structure rises from it a unified and satisfactory whole. But what are we to say about these other things which simply let the plan run away with the building? If the form given to a thing by its function is architecture then, in a sense, a soap box is architecture! But we know better. Architecture is—it *must* be—more than a plan, even admitting the plan to be the essence of a good building.

But all this reminds us what really is taking place. Art has become nowadays largely a matter of ideas, and ideas have a way of becoming condensed into catch-words, and catch-words become the basis for new "movements." In architecture, a man like Frank Lloyd Wright discovers one of the oldest architectural truths, that a building should tend to hug the earth and adjust itself to its environment. And before we know it there pops up a "school" of architects who, having caught on to his important point, lose his application of it. Mr. Wright demonstrated the esthetic advantages of making buildings sprawl horizontally. But some of his disciples have caught on only to the catch-word, and "horizontality" is now introduced into buildings that are almost as essentially vertical as a flagpole. Then there is this other phrase, alluded to above, which is responsible perhaps for most of the bad architecture being produced in the name of Modernism, the phrase that "form follows function." Sullivan's classic expression has resulted in a lot of architecture becoming nothing but industrial engineering. But of course, it is still called "Art," and the homely cylinder of a smokestake justifies itself by virtue of its "dynamic form." And for every Mesa House that the new style evolves, it will for all certainly produce thousands of specimens of "functional" architecture that will become hideous monuments of our love of slogans and lack of taste. It will also give us a lot of small green-houses to live in, in the name of the sun god, Health and the archangel, Hygiene.

It is something to reflect upon however, that two Americans, the teacher and the pupil,

have by example and suggestion been so influential in developing the "international architecture" with all its faults and virtues. But America is still a land where very few buildings over twelve stories high have a thirteenth floor. And that the average man is ready to accept the intellectualism which is producing the modern style, is very questionable. In time, if enough pressure is brought to bear on him he will have it, if only to keep up with the "advanced ideas." But so far he looks upon it dubiously, as a reflection of the disorderly mind and degenerate morals. A man at the show was heard to call one of the buildings a "tower of Babel." Well—maybe. I did hear three girls' comment: "Oh," one of them cried, pointing to a photograph of the Lovell House, in Los Angeles, designed by Mr. Richard J. Neutra, "Oh, there's that house that's across the road from us!"

"Oh, go on! *Isn't* that funny!"

"Is your house modern, Jean?"

"No, ours is Mediterranean architecture. We're just over catty-corner from this—over this way."

"I declare!"

"All the people in the neighborhood hate this thing—you know, we've all got Mediterranean architecture and we *hate* this thing!"

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The firm of R. McLeran & Company, established by the late Supervisor Ralph McLeran and which as general contractors, erected some of the most prominent buildings in San Francisco, has been reorganized as B. A. Hawkins & Co., the personnel comprising Mr. Hawkins and M. G. Harper, both of whom were active in the McLeran Company for many years. Mr. Hawkins was associated with Mr. McLeran for 22 years while Mr. Harper devoted twelve or more years to the office management of the firm. Both young men are reputed to be highly capable in their chosen work. Some of the notable contracts completed by the McLeran Company during their association with it were the Legion of Honor at Lincoln Park, Pantages theater, Oceanic, Physicians, Elks and Western Womens' Club buildings, all in San Francisco. High school group at Salinas, Tioga Hotel, Merced and Pine Mountain tunnel, Marin County.

BUILDER'S LICENSE REVOKED

Col. Carlos W. Huntington, state registrar of contractors, has announced the revocation of the license of Oscar C. Cornelius, Napa contractor, charged with diversion of funds issued in payment of a contract for the construction of a home for H. S. Woods of Napa.

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INSTITUTE CONVENTION IN WASHINGTON

A scientific inquiry into the Nation's housing problems was authorized at the American Institute convention in Washington last month.

The inquiry will be directed "to the economic processes of community development and change so that there may be discovered, first, the unsound economic causes of blighted areas and slums, and, second, what constructive economic measures can be found to rehabilitate the blighted areas and eradicate the slum areas."

The Institute acted on the recommendation of its Committee on Economics of Site Planning and Housing, of which Frederick Bigger of Pittsburgh is chairman. A successful effort to wipe out the slums is promised upon the correction of certain uneconomic practices which make for retrogression, a report by the Committee said.

"Correction, it was held, must take the form of scientifically directed change based upon accurate, reliable data. One of the first steps is to discover and identify more exactly the anti-economic procedures involved in community development and change.

The evil social results which accompany the house building process, it was pointed out, do not directly affect those who can afford to occupy and maintain high standard housing. Excessive subdivision of land into building lots of which vast quantities remain unoccupied was called a particularly costly handicap to the community. The purely speculative land subdivider, the committee urged, should be compelled to give way to those who carry through to final completion the whole synthetic process of land subdivision and construction of utilities and dwellings.

"The technique of site planning and housing has already made great advances," the report continued. "Projects have been completed in this country and abroad which are invaluable demonstrations for the guidance of the architect and others in undertakings yet to be launched.

"At the present time, and probably for many years to come, the methods of 'large-scale operation' will produce the maximum financial economy, the most efficient planning, and the most extensive provision of amenities and social goods.

"However great the accomplishment of new high-standard housing in new localities through skillful site planning, large-scale operations, or advanced technological process, the problem of slum elimination and the rehabilitation of blighted areas remains and cannot be ignored. It is a part of the whole picture.

"These retrograde dwellings and disintegrating neighborhoods are an economic drag upon community improvements, particularly upon new housing ventures. Therefore, the substitution of high-

standard housing for degenerating and low-standard housing must be accepted as a major objective of both social and economic importance."

The plan for unification of the architectural profession, outlined in detail in this magazine last month, was adopted by the convention.

Robert D. Kohn, of New York, president of the Institute, denounced the "struggle for profits," which he said now is inviting world disaster, and counseled architects to cling to their insistence even at this time, upon the importance of the professional ideal. He brought out that fortunes disappear and civilizations have been wiped out, "yet the greatest works of literature, painting, sculpture and architecture remain as an everlasting indication of what is really permanent."

A feature of the convention was the awarding of a gold medal to Ragnar Ostberg of Sweden, for the "most distinguished service to architecture." Ostberg designed the Stockholm City Hall. The medal has been awarded only ten times in the last 25 years, twice to British, twice to French and six times to American architects.

Officers elected at the closing session of the Institute are: Ernest J. Russell, of St. Louis, president; Charles D. Maginnis, of Boston, first vice-president; Horace W. Peaslee, of Washington, second vice-president; Frank C. Baldwin of Washington, D. C., secretary, and Edwin Bergstrom, of Los Angeles, treasurer; Regional directors, James O. Betelle, Newark, N. J., for the Middle Atlantic division; Herbert E. Hewitt, Peoria, Ill., for the Great Lakes division, and Raymond J. Ashton, Salt Lake City, for the Western Mountain division.

The 1933 convention will probably be held in Washington, D. C., next April or May.

MAY CHAPTER MEETING

The May meeting of Southern California Chapter was featured by a talk on "Historic Architecture of Early Los Angeles", by Miss Marion Parks. The talk was illustrated with lantern slides of many interesting residences in Southern California. Miss Parks was formerly connected with the Southwest Museum and the Los Angeles County Museum.

During the meeting it was announced that Sumner P. Hunt, a member of the Southern California Chapter, had been made a Fellow in the American Institute of Architects.

Gordon B. Kaufmann, president of the Chapter, announced that reports of delegates to the national convention of the Institute, held in Washington, D. C., in April, would be made at the June meeting of the Chapter.

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FARMHOUSE SKETCHES

Copies of 23 sketch plans for farmhouses submitted to the President's Conference on Home Building and Home Ownership by the Committee on Home and Village Housing are available to farmers and rural dwellers as long as the supply lasts, by application to the Bureau of Agricultural Engineering, U. S. Department of Agriculture, Washington, D. C.

The sketches show houses ranging from two-room, one-story structures without basements, to more pretentious homes of two stories with eight to 10 rooms. They were selected from those furnished for public distribution by State colleges, the U. S. Department of Agriculture, farm magazines, and trade associations.

In choosing the designs, the committee had in mind the need in rural sections for homes that would be more convenient, more comfortable and more pleasing in appearance than many of those now in use, and that the cost of new structures should be low. Two of the sketch plans show houses that may be built a part at a time.

The proper placement of a house on a site, with relation to other farm buildings, the public highway, available water supply, prevailing breezes, and protection from heat and cold and for proper drainage, and some of the points explained in Bulletin 1132-F on planning the farmstead.

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HOOVER DAM MOVIES

The first moving picture of construction operations on Hoover dam project, taken for the Six Companies, Inc., general contractors, were shown at the April meeting of Southern California Chapter, Associated General Contractors at Los Angeles. There were seven reels, three of which were taken very recently. The pictures show the operations at the gravel pit and at the gravel plant, where the aggregates are screened and washed; at the concrete mixing plant and in the tunnels, where the concrete lining is now being placed. They emphasize the very high degree of mechanism of construction operations on the project the permanent character of all structures and the sturdiness of all machinery and equipment made necessary by the heavy duty which has to be performed and the long time they will be in service.

The other four reels give an intimate view of Boulder City and its activities, the preliminary construction work in Black Canyon at the dam site, blasting operations and the repairing of equipment in the Six Companies' shops. The pictures of Boulder City give the impression of a highly developed community with many substantial buildings, especially those erected by the Federal government for administrative purposes and homes for the Reclamation Bureau employes. The population of Boulder City at the present time is estimated at about 5000,

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Praising the courage and initiative of Hawaiian industry in a 5000-mile telephone call from Washington, D. C., to Hilo, Secretary of Commerce Lamont on April 27 last participated in the ceremonies by which the Hawaiian Cane Products Co., Ltd., opened its new $2,500,000 plant on the Island of Hawaii.

A radio broadcast of Secretary Lamont's address was made from Honolulu in one of the longest and most unusual hook-ups ever attempted. Mr. Lamont's voice crossed the continent by land wires, passed through San Francisco to the Bell System transpacific radiotelephone sending station at Dixon, and was received at Koko Head, near Honolulu. Thence it sped by inter-island radiotelephone to Hilo. It was also broadcast throughout the islands by a radio station in Honolulu.

Secretary Lamont talked with John E. Russell, President of the Cane Products Company, whose new plant will manufacture wall board from sugar cane fiber.

"In these times there has been a tendency to await some miracle, as it were, to bring us back to what we may choose to look upon as fairer days," said Secretary Lamont. "But such a miracle cannot and will not happen.

"American business and commerce has ever progressed by looking forward, not backward. The future is what is important.

"Your new plant will give steady employment to many. It will develop new arteries of trade from the mainland to the Hawaiian Islands and back. And the product from your plant will increase the efficiency and lessen the waste of the great sugar industry in Hawaii, as well as make the homes of our fellow citizens more comfortable and more healthful places to live in."

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HISTORY OF ART

An address on "The History of Art and of Decoration in the Light of Psychology" by Dr. Eugene G. Steinhof, Professor at the National School of Decorative Art in Vienna, given at the recent dinner meeting of the New York Regional Art Council, has been published by that organization. Dr. Steinhof is lecturing in the United States under the auspices of the International Education Institute.

"Art is no longer a question of taste alone," says Dr. Steinhof. "Art is the encounter of, on the one hand, a world philosophy, with, on the other, the intellectual and material necessities of mankind." He stresses that the aim of the History of Art "is not to aid the artist with the mere appreciation and knowledge of past times, but to convey to him that creative activity, the doing, which runs more or less through all times."

"Architecture is no mere surface, which needs an ornamentation stuck on and applied to it in order to cover its nakedness. These things are much broader in scope, they are much more profound, and finally much more inspiring." Then follow descriptions of the illustrations of buildings, shown in pairs, demonstrating their psychological relation.

He then turns to the very important present day problem, the question of designs for products of industrial arts—"The revival of interest in the industrial arts does not find its beginning in this or that idea of taste, but only in a thorough reorganization of all phases of the industrial arts according to the requirements and the feelings of our time. * * * Therefore, not aesthetics is the underlying thought, but life.

"America already has its own style. We all feel it in the rhythm of life, we see it with our own eyes, that irresistible attraction which we experience when viewing the skyline or seeing the city in its nightly magic of lights—artistic impressions to which all mankind must pay tribute."

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A law requiring the registration of engineering, three architects passed by the State Legislature of Wisconsin at its late session and is now in effect. The measure was introduced in the interest of the public and under its terms all persons desiring to practice architecture or civil engineering must satisfy a board of architects and engineers, appointed by the industrial commission, that they have the necessary qualifications to practice their profession, according to the *Western Builder*.

The board of examiners consists of the state architect, state chief engineer, dean of the college and three engineers, well known in their profession and recommended by the architectural and engineering societies of the state.

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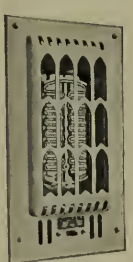

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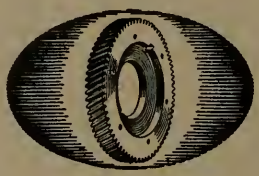

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Thumb Tacks and T-Square

"To rise to the top you must first get to the bottom of things."

⁂ ⁂ ⁂

SOME idea of how Chicago's world's fair is going to look, architecturally, may be had from the pictures published elsewhere in this issue. Modern tendencies in design are very much in evidence. The fair, once postponed, is scheduled to open in June, 1933. In normal times the holding of a fair of this magnitude would not in itself be looked upon as a stupendous undertaking for the City of Chicago, but to push the project forward in the face of a discouraging depression indicates the great faith that its chief promoters have in the recuperative power of the country. Exposition managers have placed what amounts to a chattel mortgage on forty per cent of the six-months' gates receipts and if Americans don't have the money to visit the fair, business men of Chicago stand to lose a guarantee of more than 12 millions of dollars. A further postponement has not been considered, so firm is the faith of the promoters that better times are near enough at hand to insure success from a financial standpoint. In the meantime the fair is employing a clerical staff of some 250 men and women and it is reported that 2,000 men are employed on the grounds. This is a big ad to the unemployment situation. And so Chicago will begin its second century of progress with a practical demonstration to the world that this progress could not be stopped by a temporary cessation of some of the business and industrial activities responsible for its first century of growth.

⁂ ⁂ ⁂

THE recent acquittal of Irwin M. Johnson for violating the State Act governing the practice of architecture, was no surprise to those who were familiar with Mr. Johnson's business transactions. According to evidence presented to the jury, which by the way, returned a verdict in the defendant's favor in less than five minutes, no attempt was made to misrepresent his calling for clients were advised in writing that the defendant was not a registered architect. Evidence was presented proving that at no time had he used the word architect or even designer in his plans. We consider Mr. Johnson a capable young designer and it would be gratifying to see him granted a certificate to practice his chosen profession.

"THESE are trying times for the construction industry," says a contemporary. Why single out the building industry? All alike are feeling the pinch of the times, which is not confined to any specific calling or occupation, or any particular country or section of a country. The throes from which we are suffering are world-wide in extent and economic in character, based on conditions that cannot be remedied in a day or waved aside with a toss of the hand.

The construction industry's plain duty in the present situation is to sit tight and hold fast until the bumps disappear. A smooth road is ahead, and while some will fall by the wayside before it is reached, those that maintain their grip will reap a reward for their perseverance. Meantime, show the people that money spent at this time is money well spent. Real value is obtainable at unprecedentedly low cost. Build now.

⁂ ⁂ ⁂

"Some men are known by their deeds; others by their mortgages."

⁂ ⁂ ⁂

HERE is some cheerful news which should give us renewed courage: California, with $5,873,986, was second in the Nation in volume of building permits during the month of April, according to the San Francisco Real Estate Board. New York was first with a volume of $12,321,672. Sacramento was one of the five cities in the Nation which made individual gains over April, 1931, and was also one of the nine cites in the group of twenty-five having issued the largest amount of building permits that were not in that class in March.

⁂ ⁂ ⁂

AND after you have digested the above read this:

A "definite upturn in California business conditions is already apparent," declares Col. Carlos W. Huntington, state register of contractors.

In a statement to contractors, urging increased public confidence and promotion of higher ethics and standards of industry to speed up economy recovery, Col. Huntington said:

"We are just ending the third year of adverse economic conditions, during which the bear market raiders, the pessimists and the calamity howlers have had full sway, breaking down public confidence and hampering recovery.

"I am convinced that business is now on the upgrade, and that permanent recovery is but a matter of a short period of time. In almost every city in California there is a marked improvement in building, which is the industry hardest hit by recent economic conditions."

⁂ ⁂ ⁂

ARCHITECTS who design large office structures are becoming more and more appreciative of the advice of building managers, in fact are to a considerable degree dependent upon them for information pertaining to actual floor space requirements.

Says a writer in BUILDING MANAGEMENT:

"In talking informally with a prominent architect a few days ago, the conversation turned to the planning of new office and apartment buildings and, naturally, to the value of the building manager as an expert advisor. The architect remarked that his firm, nationally known for the excellence of its work, will never again willingly design a large building without the personal, day by day advice of an experienced building manager.

"He went on to say that, just a few weeks ago, his firm was engaged to plan a new building in the Middle West. The owner, new to building operations, expected to complete the building before selecting its manager. The architects advised that the manager be employed before even the preliminary plans were prepared. So strongly did they present their reasons that the owner immediately engaged a qualified manager, to advise the architects and himself throughout the planning and construction period.

"This incident is particularly significant because this firm of architects was once reluctant to accept management advice. Their attitude, only a few years ago, can best be characterized as "passive resistance," expressed principally in minimizing suggested changes. They are perhaps better qualified than the vast majority of architects to handle even large buildings from conception to completion. To have a member of this firm stress the building manager's value so strongly was especially gratifying, because we have borne this editorial message for more than a quarter of a century.

"Commenting further, the architect declared that the building manager, from the very nature of his responsibilities, possesses personal knowledge that no architect engaged in his own profession can hope to attain. The building manager, he continued, knows from experience and study just what materials and equipment are best suited to the particular requirements of the individual project. And, in this, he inevitably takes precedence in the final selections. His knowledge is specific where the architect's knowledge is, quite properly, general. The two phases are inescapably intertwined in creating economically correct buildings. Neither the architect nor the building manager is wholly equipped to solve modern construction problems unadvised."

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WETMORE GATE LODGE AND POOL, MILLS COLLEGE, OAKLAND, CALIFORNIA

W. H. RATCLIFF, JR., ARCHITECT

THE
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PLOT AND PLAN AT MILLS COLLEGE

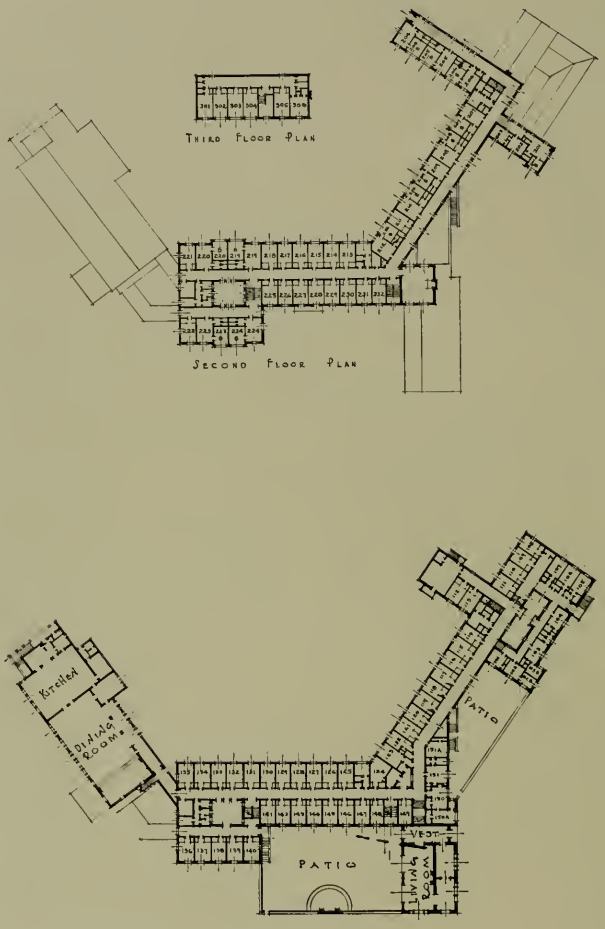
by
ROSALIND A. KEEP

FROM an architectural and landscaping point of view, as well as from an an academic one, Mills College, the first woman's college on the Pacific Coast, has attracted increasing attention in the last decade. Once the campus was a waving field of wild oats protected by wooded foothills, far from the East Bay town of Oakland. Now its campus of a hundred and forty acres, practically in the geographical center of that city, is one of its choicest parks. Mills Hall, with its mansard roof, cupola, and old-fashioned exterior, once housed faculty, students, and classes —all there was of the pioneer college. Decade by decade since then, buildings consistent with the architectural fashions of their time have more and more beautifully embodied its social needs and rapidly growing educational ideals. Eighty years ago the founders set up an oasis of higher culture in a chaotic region and in wild times. Today the college expresses the beauty and strength, the simplicity, artistic refinement and earnestness of a residential college, sequestered from the commercial world, and yet alive to its needs and its ideals. The San Francisco Bay district and especially the city of Oakland owe much to the intelligent participation of the Mills College trustees in the development of city planning and planting.

Today the campus is completely surrounded by boulevards and city streets, with a boundary line of eleven thousand and seven hundred feet. Its topography is widely varied. In its acreage there are included rolling hills, pleasant level canyons, a small body of water—Lake Aliso—and two creeks that wind through the grounds. A visitor seeing Mills College for the first time is invariably impressed with the heavy forestation, and is surprised to learn that almost all of the trees have been planted in the last sixty years. On the original campus there were several scattered groups of California oaks and a few alders growing along the creeks, but today the picturesque eucalyptus trees predominate and will strike the keynote for many years to come. Thousands of seedlings of this Australian tree were planted in the early seventies when California was first experimenting with a hardy alien that has changed the landscape of the state. In the last twenty years, more and more avenues of deciduous trees — aspens, maples, sycamores — have been planted.

PLOT PLAN, MILLS COLLEGE, OAKLAND, CALIFORNIA
W. H. RATCLIFF, JR., ARCHITECT

ENTRANCE, ETHEL MOORE HALL, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT



PLANS, ETHEL MOORE HALL, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

Dr. Cyrus Mills had in mind an informal planting similar to that of an English country estate, which the campus resembled for many years. Gradually these plans have been modified to meet the needs of a modern growing college. Many of the footpaths, bridle trails, lanes, and winding driveways for horse-drawn carriages have had to yield to paved roads broad enough for a speedier method of transportation. The street-car line, skirting the western boundary of the grounds in the late eighteen eighties, opened a new approach to the campus that has had a direct bearing on its later architectural development.

During the first forty years, a score or more of buildings were added under the direction of several different architects who were influenced by the tastes of the times. As a result, a brief tour of the campus today will reveal several buildings dating back to the seventies, three or four unmistakably in the eighties, others showing the influence of Mission or Spanish schools. In striking contrast to many of the older buildings are those of the last decade that have been designed in relation to one another and in relation to future building and landscaping of the college campus. The fact that Mills College has discarded few of its buildings, even if they may go eventually, reveals a certain conservatism that has always characterized it.

In 1923, Walter H. Ratcliff, Jr., of Berkeley, California, was appointed college architect. He perfected a campus plan which, though detailed, has been left flexible to meet new conditions as they may arise. Four of his major buildings in the scheme were completed between 1925 and 1930. Several of the older buildings have been remodeled in conformity with the Mediterranean type of architecture adopted for the college, and plans for other new buildings have been accepted and will be developed within the next few years. In the meantime planting in accordance with the general scheme is being carried out.

PATIO OF THE PINES, MILLS COLLEGE
Drawing by Vernon Morse

Bernard Maybeck, whom Mrs. Phoebe Apperson Hearst commissioned to make a general survey of the entire campus in 1918, commented significantly at that time:

"No one can foresee the future of an institution of such importance as that into which Mills College is now growing. If it were possible to prophecy what the material development would be, it would mean that the development would be limited, and

the stage of completion once reached, from that time on the college would become a museum rather than a living institution for the education of women. To be vital means to grow; to grow means to adapt an organism to new needs. This point of view must not be lost sight of in planning the housing for the future Mills. The Phoebe Apperson Hearst Plan for Mills College is conceived in the spirit of something that is to grow,

PATIO OF THE PINES, ETHEL MOORE HALL, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

and it shows only what steps should be taken in the immediate future. It is not intended to bind the future—but only to indicate that here is a place where this or that may be placed, if future conditions have been anticipated."

Six years later Mr. Ratcliff commented on his own new task:

"Mr. Maybeck's studies brought him to the conclusion that the logical grouping of the future buildings was about two axes approximately perpendicular to each other, one running from Seminary Avenue, north to Lake Aliso Hill, the other beginning at Beulah on the west and ending on Pasture Hill, across Seminary Avenue on the east. This basic scheme, together with some general conclusions regarding the placement of buildings, has been adopted upon these premises. In the problem of making an architectural plan for an established college, the considerations are three-fold and a scheme must be established that takes into account: First, the present buildings and grounds; second, the necessary development in the immediate future; and third, the development in the distant future, which is the ultimate scheme."

Mr. Ratcliff later made a permanent modification of the east-west axis, as it had been laid down by Mr. Maybeck, and drew up a tentative general scheme which he has in turn modified somewhat to meet changing conditions and developments. These later general plans made no immediate radical changes necessary, but they did present logical sites for future buildings. The four which Mr. Ratcliff has completed

are: The Art Gallery, Ethel Moore Hall, the Music Building, and the Norman Bridge Health Center.

In commenting on the significance of the erection of the first building in the new campus scheme, Roi Partridge, etcher and professor of Art at the college, said picturesquely:

"Trip-hammers have sounded on the Mills College campus for the first time. This means modern steel construction and calls to mind the picture of men in blue overalls, walking coolly along lofty bright red girders, or tossing hot rivets twenty feet to be caught deftly in three gallon buckets. That is not all it calls to mind, but the rest can be left while we deduce that something new in more ways than one is happening here; all the outcome—let us pay ourselves this compliment—of a new interest in the Fine Arts, in the Crafts, and in the culture that lies in these realms. The finest, first class 'A' and most permanent building upon the campus is to be the heart about which will cluster, ultimately, studios and workshops for the Art Department. It is to be an Art Gallery—a Museum."

The gallery includes four exhibition rooms, besides the main gallery, lighted entirely by a sky-light and by indirect illumination. The gallery as it now stands is but the first unit of a much more extensive equipment, provision for which has been made in the campus plan. In time, it will house the administrative offices of the Art Department, and the studios, and craft shops which at present are scattered in different parts of the campus. The tower, which serves as a focal point for the spreading structure, is also yet to be completed. Because the gallery is a fire-proof structure, it has attracted to the campus many valuable collections which otherwise would have been unavailable.

E. T. Leiter and Sons, Builders

GARDEN VIEW, ETHEL MOORE HALL, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

* * *

Ethel Moore Hall—how can one picture in a few words this hall of architectural grace and rare charm. Mediterranean in

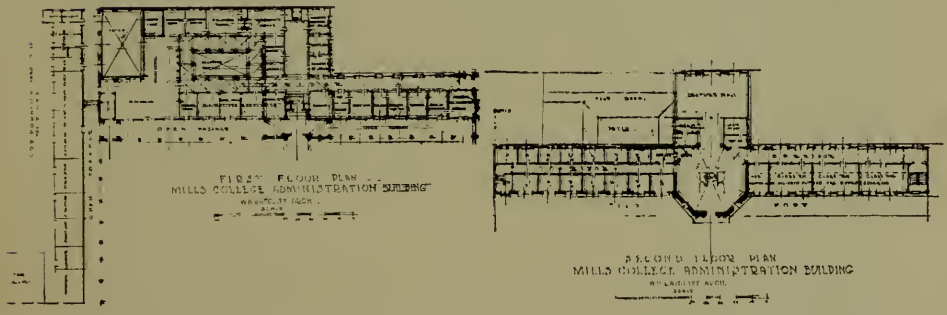
ENTRANCE TO PATIO, ETHEL MOORE HALL, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

POOL, COURT OF ETHEL MOORE HALL, MILLS COLLEGE
HOWARD GILKY, LANDSCAPE ARCHITECT

RECEPTION ROOM, ETHEL MOORE HALL, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

PERSPECTIVE, ADMINISTRATION BUILDING, MILLS COLLEGE, OAKLAND, CALIFORNIA

W. H. Ratcliff, Jr., Architect



PLANS, ADMINISTRATION BUILDING, MILLS COLLEGE, OAKLAND, CALIFORNIA

W. H. Ratcliff, Jr., Architect

ENTRANCE, MUSIC BUILDING, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

MUSIC BUILDING, MILLS COLLEGE, OAKLAND, CALIFORNIA
W. H. Ratcliff, Jr., Architect

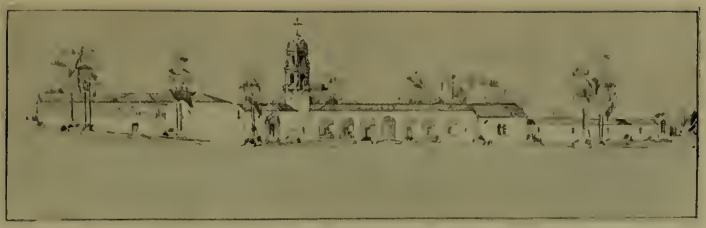
style, its rambling steel and concrete structure is admirably suited to crown Prospect Hill, one of the highest hills on the campus. Built on sixteen different levels, it is as skillfully adjusted to the contour of the ground as were the early Spanish haciendas. Three large patios and two smaller ones have been incorporated into the building design. The great dining hall with its dais and high table, the beamed living

DETAIL OF MUSIC BUILDING

FOYER OF CONCERT HALL

CONCERT HALL, MUSIC BUILDING, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

HALL FOR THE SHAKESPEARE CLUB, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect



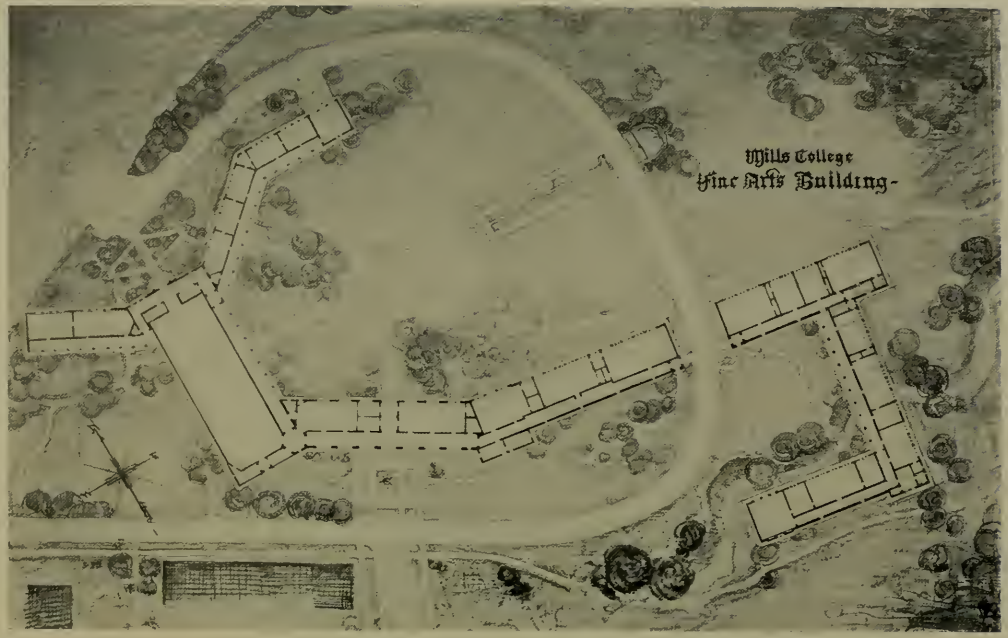
ELEVATION, FINE ARTS BUILDING, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

TOWER, FINE ARTS BUILDING, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

rooms, overlooking San Francisco Bay, the informal recreation hall, the library with blue-canopied windows and spacious open balcony, add an indefinable charm and make the hall one of the most liveable and beautiful of residence halls in any college of our land.

A shield carved in stone above the central doorway carries the words "Vassar and Mills', and that ancient symbol of learning, a simple Greek lamp, linking forever the names of two colleges that revere the memory of Ethel Moore.

Scarcely three years after the Art Gallery had been completed, and two brief years after Ethel Moore Hall had opened its doors to the seniors, the Music Building, the second permanent building to be devoted to the Fine Arts, was dedicated in a manner that brought honor to the whole Pacific Coast. A two-day festival of music made possible by Mrs. Elizabeth Sprague



PLAN, FINE ARTS BUILDING, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

SOUTH ENTRANCE, FINE ARTS BUILDING, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

NORTH ENTRANCE, FINE ARTS BUILDING, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

Coolidge of Pittsfield, Massachusetts, brought hundreds of musicians and patrons of music to the campus.

Architecturally the building has won a unique honor. It was given the highest award that the Northern California Chapter of the American Institute of Architects could bestow at its biennial exhibitions in San Francisco in 1929. One of the members, William Clement Ambrose of San Francisco, wrote of the award and its architectural significance:

"The Music Building of Mills College, designed by Walter H. Ratcliff, Jr., of Berkeley, is both old and modern, old in suggestion and modern in function. The central mass, housing the recital hall, with its rich plateresque doorway, suggests in its exterior appearance a large gathering place such as the old church of the Spanish colonial era. But inside is found an auditorium with sloping floor and all modern aids to acoustical perfection. Inside, too, is found the union of the old and the new in the rich decorative scheme, including frescoes by Ray Boynton, a modernist using a method of painters of six hundred years ago.

PROPOSED MARY MORSE RESIDENCE HALL, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

ELEVATION, PROPOSED DORMITORY, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

LISSER HALL, MILLS COLLEGE
W. H. RATCLIFF, JR., ARCHITECT

NORMAN BRIDGE HEALTH CENTER, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

RIDING STABLE, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

"Flanking the main recital hall at one side are the administration offices and classrooms, on various levels as suggested by the slope of the hillside upon which the building is built. On the other side of the recital hall are a multitude of practice rooms, grouped behind a high and long sloping up the hillside in the Greek theater manner, and arranged so that the recital platform is a part of the music building. This open air theater will accommodate approximately fifteen hundred persons.

"The building, complete and functioning under the guidance of the dean, Luther

ALUMNAE HOUSE, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

porch, as were the monks' cells in the old monasteries. One need go no farther than Mission San Jose to see an old porch of this general type. The inclusion of this porch has not only well solved the architectural problem of combining many small units harmoniously, but has given the building the distinction of carrying on a California tradition. And carrying on another early California tradition, at the end of this porch, is ample provision for entertainment and feasting.

"Directly behind the recital hall has been built an open air auditorium with the seats

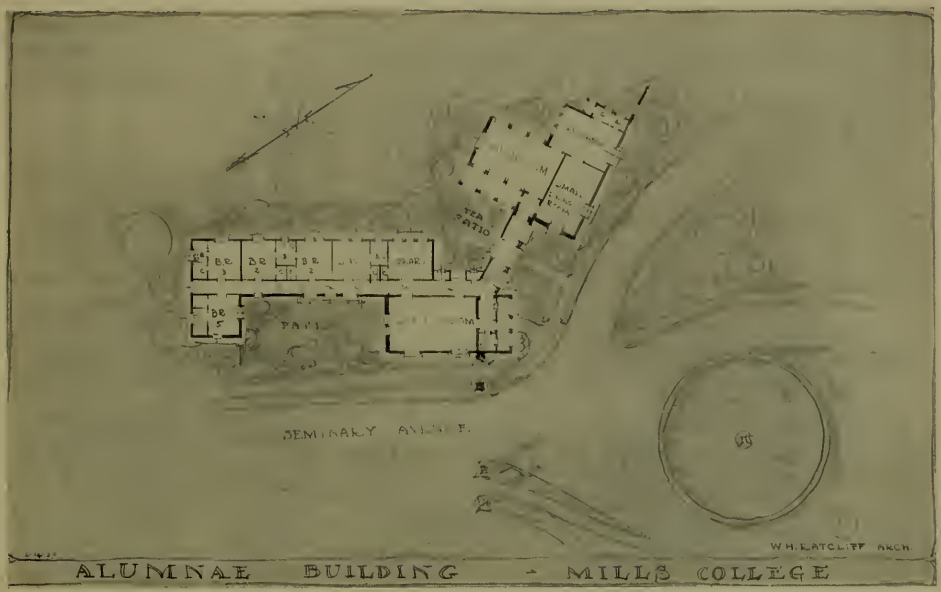
Marchant, will, as time goes on become even more beautiful as the planting develops on the terraces and in the courts behind the building. It was in recognition of the splendid performance of providing a suitable housing for the School of Music in a convenient and beautiful form that the committee of the American Institute of Architects conferred honor awards upon those responsible for the building."

* * *

The Norman Bridge Health Center was dedicated in the autumn of 1930. With a frontage of three hundred and ten feet, it

has been built in the picturesque old apple orchard facing the tennis courts. Its broad, sunny porches, its wards and private rooms, its solarium, and its quarters for the resident physician and nurses, make it an ideal center, easy of access to the six residence halls and yet sufficiently removed from isolation, provides at last ideal quarters for this work which the college has always carried out."

Future building plans like those of the last ten years will probably continue to develop along lines that will always be in keeping with the historic associations, the



PLAN, ALUMNI BUILDING, MILLS COLLEGE
W. H. Ratcliff, Jr., Architect

campus life to insure quiet. One arm of the cross which the building forms is reserved for the dispensary.

At the dedication exercises, Dr. Aurelia Henry Reinhardt, President of Mills College, voiced the sentiment of her colleagues, when she said:

"The Norman Bridge Health Center puts the cap upon our health program at Mills — disease prevention and medical care. Education progresses only so far as bodily health is maintained. The arrangement for student health service at Mills has been excellent, but the erecting of a building with clinic, rest ward, sick wards and climate and the topography of the campus. The buildings will naturally have a two-fold purpose: First, to meet all immediate and practical considerations for the greatest benefit to the students; and, second, to create an environment and tradition that will contribute to the larger aims of the college as a mainspring of western thought in the material and idealistic values of life. The campus in its possibilities of plot and plan may be summed up in the words of the young western poet, Clark Ashton Smith:

"Here were the theatre of a miracle,
If such, within a world long alienate
From its first dreams and shut with sceptic years,
Might now befall."

ENTRANCE TO RAMBOZ RESIDENCE, PASADENA
WESTON AND WESTON, ARCHITECTS

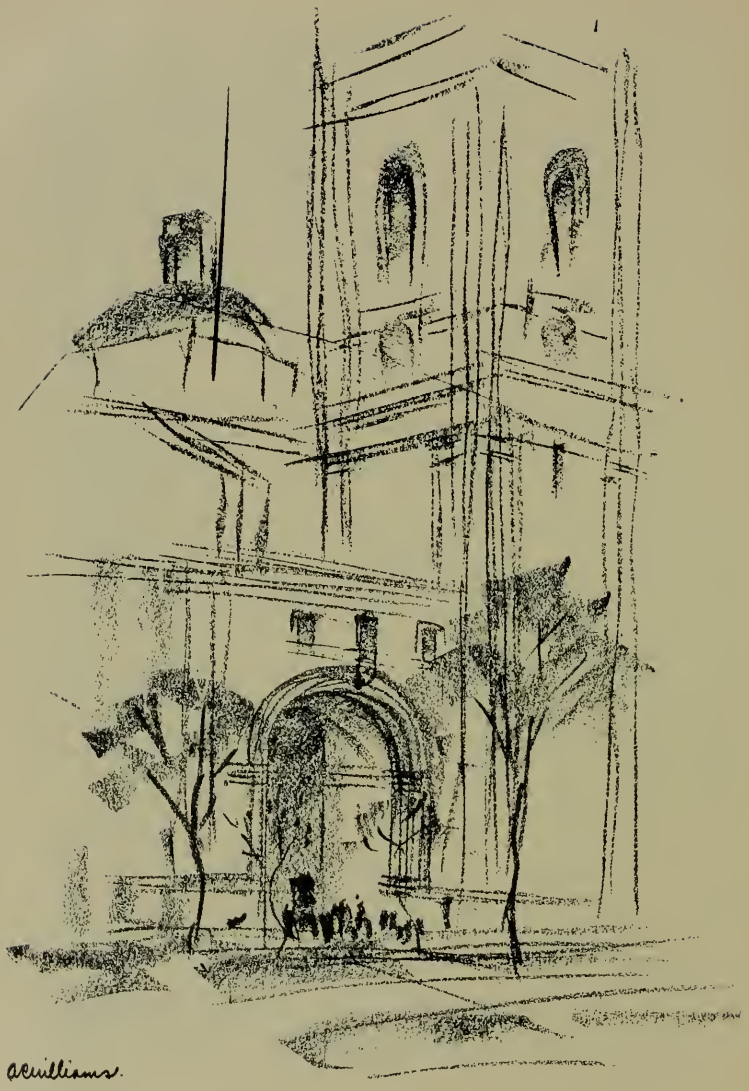
Random Sketches in Spain and Italy

by Alfred C. Williams

ARCH OF SEPTIMUS SEVERUS AT THE WEST END OF THE ROMAN FORUM

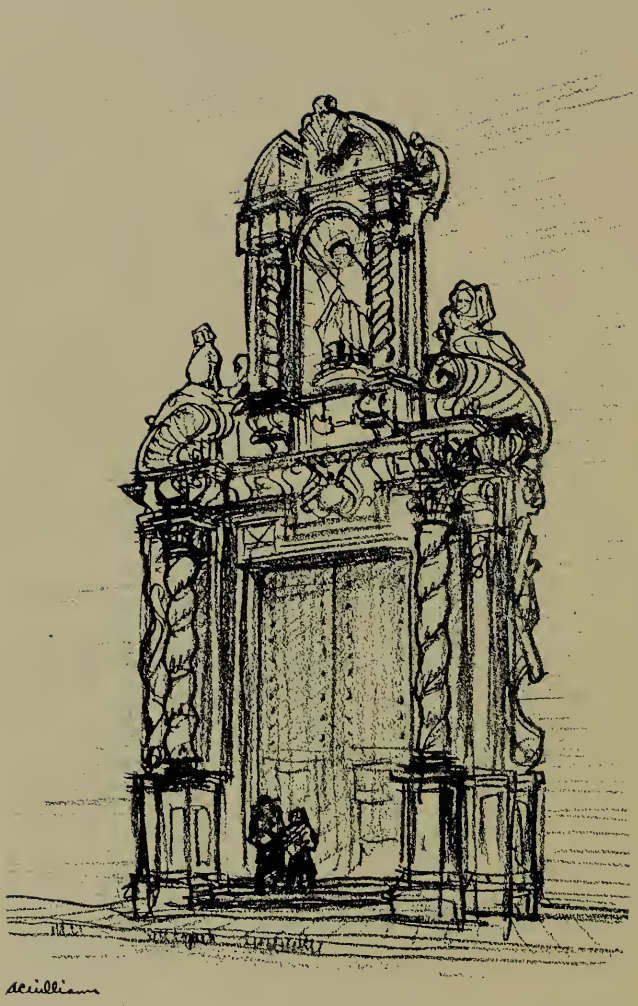
STREET ARCADE AND APSE OF THE CHURCH OF SAN GIOVANNI E PAOLO, ROME

BAROQUE CAMPANILE TERMINATES A STREET OF SARAGOSSA



ENTRANCE TO THE CATHEDRAL OF MARIA DEL PILAR IN SARAGOSSA

A COURTYARD ENTRANCE TO THE GOTHIC CHURCH OF SANTA CRUZ IN VALENCIA



ENTRANCE TO A CHURCH IN VALENCIA

THE ENGINEER'S AESTHETIC

by
WM. L. WOOLLETT, Architect

ALL the world is awake to the so-called engineer's aesthetic. The form, i.e., profile and contour, of ships, and air craft; engineering features, like culverts and dams and all constructions, from grain elevators to electrical apparatus, etc., declare themselves free of the impedimenta of classical architecture—all express the mathematical law of their creation—irrespective of the prejudices of selecticism in art. Many of these forms seem beautiful to us.

Architects like to think—are in fact coerced by tradition to believe that the architect's aesthetic is one thing, the engineer's aesthetic another. Le Corbusier on the first page of his book, which has been translated from the thirteenth French edition, says:

"The Engineer's Aesthetic, and Architecture, are two things that march together and follow one from the other: the one being now at its full height, the other in an unhappy state of retrogression."

A bird's eye view of a modern city proves the point. Nine-tenths of our buildings present dominant engineering forms to our view. Small areas here and there, the street facades, remind us that the historical styles of architecture exist for the litterati of a dead profession. Continuing Le Corbusier says:

"The Engineer, inspired by the law of Economy and governed by mathematical calculation, puts us in accord with universal law. He achieves harmony."

The engineer adds to his mathematical calculations, something of a more illusive and profound nature which amounts to an aesthetic and which accounts in part for the acclaim of mankind for purely engineering works. But is this aesthetic essentially in a different category from that which governs the architect? Our modern mountain roads, which swing in great curves ramped and banked subtly to meet the requirements of swiftly moving vehicles, illustrates the functioning of an engineer's aesthetic. Sometimes the road seems to fit every requirement of practical use and reveals as well a charmed sense of blend with landscape. Frequently the engineer's formulae devistates our emotions. The chauffeur remarks: "good roadbed and bum engineering." There are evidently aesthetics in the profession of engineering. It is not only today that great engineering enterprises appeal to the emotions of man. The Pyramids are primarily an engineering feat; their intrinsic appeal however being based on a sense of the abstract.

Quoting Le Corbusier further: "The architect, by his arrangement of forms, realizes an order which is a pure creation of his spirit; by forms and shapes he affects our senses to an acute degree and provokes plastic emotions; by the relationships which he creates he wakes profound echoes in us, he gives us the measure of an order which we feel to be in accordance with that of our world, he determines the various movements of our heart and of our understanding: it is then that we experience the sense of beauty."

In this formula every architect would concur. But by what means shall the architect produce under the spell of this keen aesthetic? What is the law, the order?

A modern engineer pleased to carry his aesthetic to the nth power and thereby create a work of art should see in a definition of the architect's aesthetic an advanced step in his own aesthetic. Unfortunately, logic and science have apparently left the picture when it comes to telling an engineer in plain words just what is to be done to his building in order to make it beautiful. A waste of vagueness greets the scientific

mind when it approaches the confines of this Phoenix-art.

An examination of the architectures of antiquity proves beyond a doubt that there is a law and order, i.e., a method of thought which is responsible for beauty in architecture.

A study of the Parthenon affords especially large returns, in opening up the reason—the why—the method—because the psychology of the builder's craft may be easily read in this building.

The Parthenon, however, is to most moderns a closed book. When it comes to stating "cold turkey" the laws of correspondence in plastic values in architecture —almost total ignorance prevails!

I would like to get the reaction of a master class of young graduate engineers to this question. I would like to take a few steps with them into the mysteries of the Parthenon. Out of every group of engineers, there are some who have a sense for "plastic values." Our ship builders, our airplane and automobile manufacturers, our makers of faucets and bathroom fixtures, our builders of roads already mentioned prove the point. All modern commodities and utilities have started on the road to beauty by way of the road—"plastic values." The automobile business very definitely illustrates the progress from the tin box stage to forms which are bird-like in flowing, symmetrical, plastic, resilient, rhythm. I consider that the engineer's point of view and mental equipment, other things being equal, is the best possible starting point for the architect's training.

Engineers may understand architecture in a sense quite beyond the vision of the average architect. It is possible that some embryo Michael Angello or Leonardo is now studying calculus. I confidently affirm that no modern Leonardo will emerge from an educational system which neglects the scientific attitude. An understanding of construction, building, and applied mechanics is paramount. "Structural Aesthetics" is architecture. A sense of necessity, the accommodation of structural values to use, is source of the form in architecture as it is the source of form in a tool—a spoon for instance. Some of our best technical schools such as the Massachusettes Institute of Technology affirm through their curriculum their belief in the principle herein set forth.

I venture to predict that Le Corbusier's powerful expose of the engineer's aesthetic is but a step presaging a complete denouement. I believe that all the world is becoming conscious that the so-called engineer's aesthetic and the architect's aesthetic are but one and the same thing — except that one is a little more of "this" and the other a little more of "that." The modern architect now asleep will sense the fact that his place has been usurped by the engineer. For while the architect has been at play with the Beaux Arts and the Latin Quarter and the picture on a piece of paper attitude, the engineer has actually created present-day construction. The "architect" is looked upon as a dilantante and interloper.

According to the accepted theory the architect's aesthetic begins where the engineer's aesthetic leaves off, if I read Le Corbusier aright, but how and where? Is a building not a blend of both architect's and engineer's aesthetic, i.e., a blend of all "structural aesthetic" values which of course have their beginning, middle and end in the plan — a balance of use and utility, static, shade and light, color, abstract form, plastic values, comprise architecture. Where is the fulcrum on which these supposedly different aesthetic principles balance? Where does the architect's work really begin? Is an architect merely a "frosting" expert, arranging curly-cues and jig-saw work and plaster ornaments, stone, marble, brick, applique to a building? Is architecture a super-imposed "order" of plastic values which by means of still another "order" must be related to the structure? Shall the plastic "order" created by the architect pulse with emotional ecstasy in harmony with the engineer's aesthetic, or in spite of the engineer's aesthetic? Is the architect, like the barber and the pastry cook, a confectioner of color and form values which have no engineering significance? Is he a constructor and an engineer and a builder and a craftsman only by proxy? Does the plastic "order" created by the architect influence the construction?

How may a sense of power and permanence, the necessary ingredient of a great work of architecture arrive by means of an arrangement of purely plastic values, unrelated to the structural aesthetics of underlying construction or if related shall the relation be coerced and bastard, or shall it be the intelligent outflowing impulses generated in the genius of the whole? If construction members are not seen how may they count in the scheme?

Wisdom where is thy law in architecture? Surely the engineer, the shipbuilder, the maker of the Zeppelin, and the skyscraper formulates in his brain a concept of accommodation to use and permanence which is fundamental and full of the beauty of creation. Of all creating creatures why deny to the engineer the sense of beauty?

The aesthetic of the great constructor and craftsman is "one thing" to be sure; but is it the real, the lasting, the final? And the aesthetic of the architect—is his aesthetic the superficial, the merely decorative function? Is the architect a midget who brushes and combs these gigantic forms into holiday attire? What blend of architecture and engineering aesthetics is artful and what blend without art?

It is axiomatic that in order to fashion structures as Michael Angello fashioned the Dome of St. Peters or Brunellischi the Duomo of Florence, for instance, the architect must be something more than a master modeller. Out of the sense of building, out of the sense of structures, out of the sense of the mechanics and craft of building comes the wisdom which enables the architect to relate the desired form to the underlying engineering formula. Thence must emerge through the sense of relativity and of the abstract the forms which we recognize as "creations." Architecture is the language of the gods. The temples of antiquity spoke to the gods in this language of an infinite number of correspondences. Therefore, we have good architecture in proportion to the skill of the architect as a weaver of abstractions.

So the Parthenon came into being — a blend of engineering craft and subtle cunning of the pscyhoanaylst. If on the other hand the so-called architect is not an engineer and craftsman by training and instinct, he will design his plastic forms as a covering of construction which he knows only objectively and he will attain—nothing, but a stage set! Such is modern architecture.

An engineer's aesthetic versus an architect's aesthetic! The aesthetic of the Pyramids versus the aesthetic of the Paris Opera House! The aesthetic of the potter, and the painter, the printer and the designer of wallpaper! There is just one aesthetic and that is the law of correspondence of values.

The Gothic Cathedrals were great problems of construction as were the Greek and Egyptian Temples—primarily they were the work of great constructors, engineers. Much of architecture outside of these great epochs has been merely the work of aesthetics, who used construction quite as a man uses a cane—something on which to lean.

Whether it be arrangement of dramatic values in a play, the arrangement of logic in a treatise on law, or a work on history or a flower in a vase, aesthetic is the balance of the co-ordinated dramatic abstractions which are the components of "form." Form in a sense that the creator knows "order." "Structural aesthetics" is a comparable term meaning the orderly arrangement of the dramatic abstractions of construction.

Mathematics is the bone of all aesthetics, the warp and woof of the structure of the universe, the one unforgettable, everlasting fact.

The aesthetics of the engineer is then the subtle plus quality, over and above his engineering intelligence which serves "as a common sense" to sell his calculations to the common man. Aesthetics may be likened also to humor the plus intelligence which permits play. Like the sense of humor also aesthetic values are the golden hinges which added to calculation permits emotion to enter the picture.

In the lines of his castings, the balance and set up of his complicated machinery, belting, runways, floor spaces, all composed into a cosmos of utility, the engineer suggests to me, harmony, beauty, practical values so truly balanced as to constitute an

aesthetic; an aesthetic in essence quite the same as when problems of use and utility are cast in a more opulent or costly mould as in architecture. Why eliminate the engineering principle as a component of the architect's aesthetic? Why assume that common sense is absent when beauty knocks at the door? When one exacts harmony, beauty from colored marble, mosaics, murals, plastic forms which are necessary adjuncts in an opulent and intricate construction, the unforgettable reason of their being at all must be there, for every proportion and part, profile and contour properly co-ordinated with the other unforgettable reasons for all the other parts. What are these unforgettable reasons? Only through a knowledge of the minutae of historic architecture may we know these reasons, and it is for this reason that a study of the refinements of Greek architecture is necessary. Here we learn just how the plastic order is manipulated.

The world has passed alternately through creative periods of architecture which have been superseded in turn by periods of decadence. In the decadent periods, as the Roman era for instance, we have architectural forms created on the ruins of a creative epoch. Thus in Roman architecture we have a purely empirical aspect of grandeur. The subtle abstractions of the Greek art absolutely disappeared in the creations of Rome which only seem to follow the classical style of ancient Greece. Later during the Renaissance period some of these subtle values reappeared and struggled to reassert themselves in an atmosphere of pseudo classicism. The subconscious values, the abstractions which are possible in good architecture are entirely frustrated by the vulgar taste of uneducated epochs.

A Tibetan fiend having a perturbed sense of humor opened up his abdomen in the public square of Lahassa on a fiesta day and playfully pulled out his entrails. Some architectural ornaments, components of opulence and the play spirit which should be sublimated within the carcass of a building —subtly felt and skillfully disguised by the profiles and contours remind me of this episode. There is nothing subtle or truly artful about an architecture which too cheerfully cavorts its emotional prerequisites. Redundance of ornament and granulated, corregated textures dissipate, whereas profile and contour finely drawn connotate the power of co-ordinate, self-contained, structural power! Thus every profile and contour of a building should relate itself to structure just as in a tree form, the trunk and limb, leaf and fibres, are the essence of logical rhythmic growth, an organism, beautiful, harmonious, scientific. Profile and contour aptly dominate subtly drawn should tell all that is necessary. The plasticity of ornament in architecture illustrates —it is not fundamental. How this result is obtained is taught by the ancients.

The parthenon, like a python, rests its suave surfaces so softly turned as the torque in a butterfly's wing, stirs seemingly under the influence of the day and moving its inert walled and columned flanks fuse into life; form emerges into its composite— emotion, and silently churning, undulating, the embodiment of seething power of static, these volumes of abstract form and color appear to be alive. While one waits with bated breath the sun, its cycle bending over earth breathes a still more radiant life into these marbles of palpitating light.

Greek architecture was an engineer's aesthetic raised to the nth power, i.e., the pure structural elements and static relations emotionalized and made over into abstractions through a nicely balanced sense of plastic values.

In the Parthenon an ever engrossing sense of profile and contour appears as one approaches. At each new distance some added feature may be read easily as being an object of refinement, or index of scale— two scales always being apparent. Up to the very point of touching the stones with the fingers, where in amazement we find delicate refinements of profile and contour which almost defy analysis we sense movement. At all distances the proportions and surfaces appear refined and elegant. Just where the engineering or craft or constructing sense ends and the sense of the related plastic values begins it is impossible to state in exact terms. The point of application of this law of correspondence is variable and

depends on the balance between the craft aesthetic and the sense of the abstract in the individual.

In order to understand the marriage state of craft and aesthetics in a building the architect must be an engineer, or better still the engineer must have the culture which will permit him to swerve his forms into the rhythm of calculated plastic beauty, calling into being thereby the forces buried in the subconscious life of man, to sublimate the passions and finally to forge the entire creation a plastic mass into an engineered formulae.

[Concluded in the July Issue]

DAVIES STUDIO, LONG BEACH
HUGH R. DAVIES, ARCHITECT

AN INTERESTING ENTRANCE DETAIL

WORLD'S FAIR BUILDINGS REFLECT MODERN DESIGN

by
GEORGE A. BARCLAY

ON the shores of Lake Michigan, adjacent to downtown Chicago, the results of several years of study by the Architectural Commission of Chicago's 1933 World's Fair are now becoming apparent in the form of actual buildings on the Exposition site.

Seven structures are either standing, or are in the course of erection. The completed buildings include the blue and white Administration building of lofty windows, which already houses a force of several hundred workers; the Travel and Transport building, a unique example of twentieth century architecture with the cable-suspended dome that "breathes with the seasons"; the log-hewn replica of old Fort Dearborn, pioneer stronghold when Chicago was a frontier outpost a century ago.

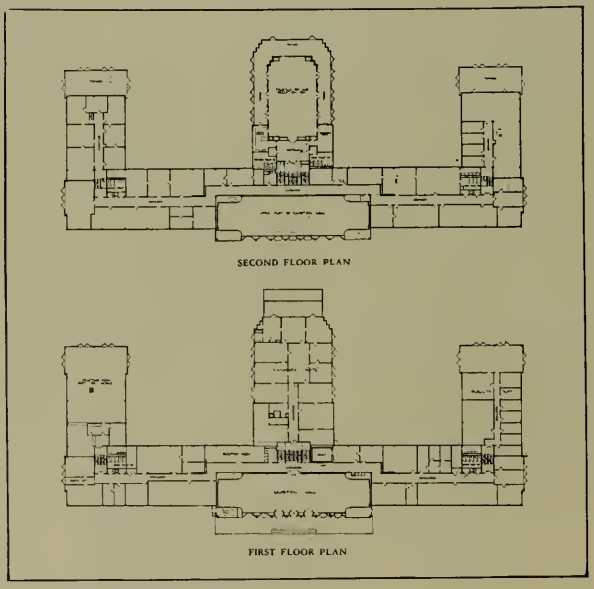
TOWER OF WATER, DOMINATING FEATURE OF 1933 CHICAGO FAIR
Ralph Thos. Walker, Architect

The buildings under construction include the Hall of Science, designed by Paul Cret of Philadelphia, now rapidly approaching completion at Sixteenth Street and Leif Eriksen Drive; and the three buildings in the Electrical Group, designed by Raymond Hood of New York, which are rising on Northerly Island and which will be devoted respectively, to radio, communications and electricity in all its branches.

Plans for many of the remaining buildings have already been completed and within the next twelve months the construction programs will be carried out on a scale that will insure that the Exposition will be ready in every detail on opening day, June 1, 1933. Several great corporations, including General Motors, have contracted to erect large buildings of their own.

ADMINISTRATION BUILDING, CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILLINOIS

Edward H. Bennett, Hubert Burnham and John A. Holabird, Architects



PLANS, ADMINISTRATION BUILDING, CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILLINOIS

Edward H. Bennett, Hubert Burnham and John A. Holabird, Architects

MAIN FACADE, ADMINISTRATION BUILDING, CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILLINOIS

EDWARD H. BENNETT, HUBERT BURNHAM AND JOHN A. HOLABIRD, ARCHITECTS

ADMINISTRATION BUILDING, CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILLINOIS

E. H. Bennett, H. Burnham and J. A. Holabird, Architects

HALL OF SCIENCE, CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILLINOIS

Paul P. Cret, Architect

The structure will present the appearance of a metal and glass creation, rising from colored terraces and brilliantly illuminated.

The Administration Building was the first Exposition building to be designed and completed. In many ways it forecasts the architectural form of the Fair. In the form of a huge letter "E", with the open side facing a lagoon and the closed side paralleling Lief Eriksen Drive, the Administration Building combines the practical with the decorative in architecture. The Administration Building houses all the offices of A Century of Progress. Two of its most remarkable features are a great entrance lobby or exhibit hall in which models or drawings of buildings and exhibits are displayed as they develop, and a trustees' room in which distinguished guests are received and entertained.

Old Fort Dearborn, reconstructed from the original specifications of the War Department of more than a century ago, and the first building of A Century of Progress opened to the public, is already a point of great interest with visitors.

The Hall of Science, now practically completed, is a great U-shaped building with two long arms reaching out to the lagoon which lies between Northerly Island and the shore. The two arms are to be hooked in by bridges across the lagoon to the Electrical Group, now rising on Northerly Island.

The Hall of Science is a two-story structure, 700 feet by 400 feet, with a mezzanine and a great ramp the full width of Leif Eriksen Drive, starting at a point 200 feet north of the circle which is centered on 16th Street and the Drive. The southern half of the terrace to which this ramp leads will be enclosed with a row of twelve pylons forming an impressive termination to the Drive as the building is approached from the north.

The Hall of Science is windowless. It will depend entirely for its effects on artificial light. Those who are familiar with exhibition buildings know that sunlight for illumination purposes is a variable factor. By eliminating windows, the architects and exhibitors have full control over the volume and intensity of light at all times. The elimination of windows has had a highly practical value, since it has meant considerable economy in construction.

The effectiveness of the architecture of the Hall of Science lies in its planes and surfaces and in the skillful use of coloring. White and gray, relieved by red and gold and blue form the color scheme. The decorative treatment of the great wall surfaces is gained by the use of wood battens in attractive patterns.

At night it will be brilliantly illuminated by indirect and fluctuating colored lights and by rotating Neon tubes behind decorative frames, projecting an ever-changing parade of color. The exterior wall surfaces have been arranged so that they will produce at night as effective a color scheme as the one visible in the day time. A dramatic feature of the illumination when it is finally completed will be the treatment of the tower. The latter will be studded with what might be termed electric jewels, climaxing at the top where they will form a solid mass. Actually, these jewels are small projectors, each one throwing a high candlepower beam either north, south, east or west. At a distance of a thousand feet or more these jewels will merge in a blaze of color which will be effective for several miles.

The courts and terraces of the building are being appropriately landscaped, and fountains at certain points and picturesque pieces of sculpture will add to its beauty.

The basic theme of A Century of Progress will be dramatized in the Hall of Science. Because of this fact and because of its unique and beautiful architectural design, the building is expected to be a magnet for millions of visitors in 1933.

There is a striking evidence of the employment of new ideas of design and new materials in the structures already erected and under construction. The architecture is frankly modern. It will satisfy the urge of Exposition visitors for something new—something different from what they are accustomed every day. But nothing theatrical has been added just for effect. The buildings interpret the designs and materials of the present era and forecast the development of these in the next century.

Almost every previous fair or exposition has been modeled after some significant period in the history of civilization. Econ-

TRAVEL AND TRANSPORT BUILDING, CENTURY OF PROGRESS, CHICAGO
The building represents the first application to architecture of the suspension bridge principle. It is 1000 feet long.

ELECTRICAL GROUP, CENTURY OF PROGRESS EXPOSITION, CHICAGO
Raymond Hood, Architect

REPLICA OF FORT DEARBORN, CENTURY OF PROGRESS EXPOSITION
Photograph shows, left to right: the powder magazine, soldiers barracks, blockhouse and barracks.

omy in building is insisted upon, but this does not mean stinginess—rather getting full value for every dollar spent. This principle is primarily responsible for the curious construction of the Railroad Dome of the Travel and Transport Building, which has already been erected, and which challenges the attention of everyone who passes on Lief Erickson Drive. It is a circular structure, having a clear inside diameter of 200 feet, enclosed in a ring of 12 steel towers, 150 feet high. Support cables are fastened to the top of the steel towers and anchored in concrete blocks in the ground. These anchor cables make it possible to carry the entire weight of the dome by suspension cables run from the tops of the towers and thus provide an enormous space without an obstruction.

In many respects, the dome is one of the most remarkable structures ever designed by man. An expansion or contraction in its circumference of from six to seven feet is possible, under an unusual wind pressure from any direction.

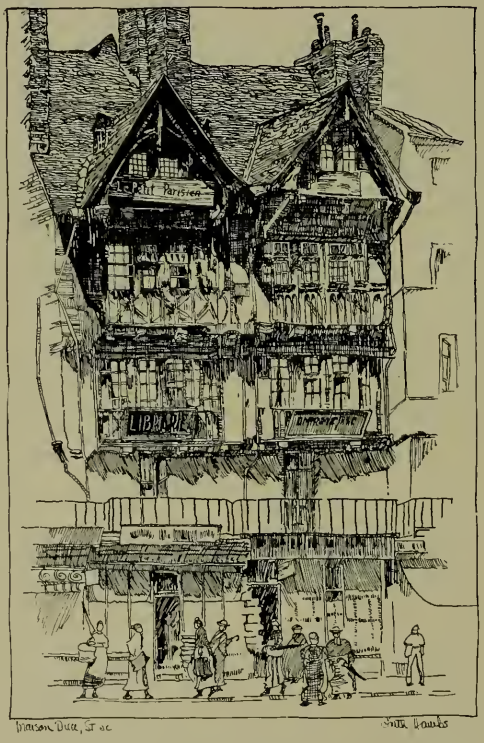
The visitor in 1933 can rest assured on one point, namely, that when he nears the site of the fair his eye will be greeted with something remarkable in the way of color displays, for the officials of the enterprise confidently predict that the Century of Progress will be the most spectacularly chromatic affair ever created on this globe. The celebrated World's Columbian Exposition in 1893 was completely white—in fact it was dubbed "The White City"; but the show of 1933 is scheduled to vie with the rainbow. Lighting effects for night time are being planned intelligently and lavishly, and laboratory experiments are now being carried on with every conceivable idea in floods, spots, and other lighting tricks.

The Electrical Group on Northerly Island will be 1,200 feet long and 300 feet wide. This group will be composed of three

units—the Radio building, the Electrical building and the Communication building.

The Radio building will be a rectangular structure, 250 by 100 feet. The Electric unit will consist of a three-quarter circular building surrounding a court and rising from a series of terraces. Back of this court will be a hall, 60 feet high and 500 feet long. On the upper terraces of the circular unit, an electrical cascade will play. The Communication building will be a square-shaped structure, lying between and connecting the Radio and Electric buildings.

The members of A Century of Progress Architectural Commission are: Harvey Wiley Corbett of New York, chairman; Edward H. Bennett, Hubert Burnham and John A. Holabird, Chicago; Raymond Hood, Ralph T. Walker and Ferrucio Vitale, New York; Paul Philippe Cret, Philadelphia, and Arthur Brown, Jr., of San Francisco.



PEN-AND-INK SKETCH BY EDITH HAWKS

GOOD PLANNING ATTRACTS BETTER HOMES

by
L. DEMING TILTON

LATE in 1931 some 3700 people assembled in Washington at the command of the President, to discuss the housing of the American people. Never before in the history of the United States have so many of its citizens been brought together to consider the housing question.

This Conference on Home Building and Home Ownership came into being largely because President Hoover has a deep personal interest in the housing problem. He fears the effects upon American citizenship of a decreasing home ownership. He sees the menace to social welfare of increasing tenement and apartment-dwelling. He recognizes the tremendous importance of home-building to the industrial and commercial life of the nation. He appointed thirty-one committees to study all phases of the housing problem. For over a year these committees carried on their work of investigation, research and analysis. Funds for their expenses were provided from private sources. Thousands of hours of valuable time were given by busy men and women from all parts of the country in this effort to improve home building and increase home ownership. It was to hear and discuss the reports of these committees that 3700 citizens left their work and went to Washington in December.

An examination of the reports of the thirty-one committees shows plainly that their interest was in the welfare of plain people. One paramount consideration runs through the work of the Conference. How can decent, livable homes be put within the reach of families whose annual incomes range from $1500 to $2000? What sort of homes can be provided for these unfortunate families whose annual incomes fall below $1500? These two groups, according to the findings of the Committees on Income, make up something like seventy percent of the population of this rich and highly civilized nation. The heads of families in these low-income brackets face the toughest kinds of problems in their efforts to secure shelter and warmth and to provide proper surroundings for their children.

Many think that planning, of the kind that twenty-five counties in California are supporting, is merely a fad, a governmental frill. They question the value of this service to the common people, to the great mass of citizens and tax payers.

The President's Conference on Home Building and Home Ownership challenges this doubt. In page after page of printed reports, the committees emphasize the importance and value of community planning to the family of limited means. The findings of several reports indicate that through careful planning, ways may be opened up for increased home-ownership, more permanent home values and healthier and more satisfying home districts.

Good planning is economy. It is not, as the Conference revealed, a matter of interest only to the rich. The savings which result from orderly civic development can be distributed among owners of the very smallest and most humble cottages.

The building of a home on a slender income is a tremendous undertaking. Every tiny bit of economy that can be captured increases the prospects of its success.

*A note from President's Conference on Home Building and Home Ownership and its findings with reference to city and county planning. Mr. Tilton is Director of Planning for the Santa Barbara County Planning Commission and a Member of the American Society of Landscape Architects.

Every flaw in financing, every unexpected item of expense, every bit of waste, every factor that lessens the security of the investment makes a tragic loss possible.

The well-to-do can find ways of protecting themselves and easier means of recovering losses. The family of small means must depend upon governmental agencies for protection and security. The cost of such insurance and aid as government can render is small indeed by comparison with the social and economic losses resulting from decreasing home-ownership, blighted districts, bad housing and other conditions that make up what is called "the housing problem."

The President's Conference, therefore, urges careful planning of neighborhoods, cities and counties as a first step toward making it easier for a family of small income to have a decent home. Secretary Wilbur summarizing the findings of the Conference says:

Each City and Community Should Have a Master Plan

"Since our contemporary problems have so largely grown out of lack of foresight and of proper regard for the public interest, the necessity of judicious and well-conceived planning of cities and of their outlying areas throughout the metropolitan region is indicated as a first essential for the correction of old evils and the prevention of new. Such planning involves a thorough understanding of human needs and of the nature of the public interests involved. It requires a knowledge of trends in urban developments and a vision of a city which will be a source of inspiration and pride to its citizens as well as an efficient center for interests of commercial, industrial or civic nature. The layout of streets, blocks, lots, utilities, transit systems, parkways, playgrounds and centers for business, industry or civic affairs should be conceived in such a way as to render homes accessible to places of work or recreation on the one hand while protecting them from the confusion and bustle of industry and the dangers of through traffic on the other. Careful attention to planning and the layout of new subdivisions will make possible the most desirable type of setting and approach for each home and will at the same time make reasonable the charges of land, utilities and other services which under haphazard development may prove too heavy for the home owner of modest means."

Each City Should Be Zoned

"By zoning of new areas and the rezoning where necessary of old, it is possible to protect homes from undesirable neighbors and land values from instability. Areas for industry and commerce, as well as for residence, should be carefully delineated but in a way which will make the neighborhood store accessible for service but not a neighborhood nuisance."

"The free-standing dwelling can be protected from the invasion of the multi-family dwelling or apartment houses and the charm and integrity of each neighborhood unit may be preserved. Carefully drawn provisions for setbacks of homes and definite requirements of specific and adequate reservations of land about each dwelling may preserve a beauty in residential neighborhoods which otherwise would be lost under conditions of unwise and reckless land subdivision."

The construction of a home of any kind, whether a single family dwelling standing alone or a vast apartment building, proceeds only after the selection of a site. In the preparation of land for residence uses, the services of a planning commission lead often to very real savings which can be passed on to the home builder.

The Committee on Subdivision Layout of the Conference conducted experiments in the design of subdivisions and found certain types of street and block arrangement which offered not only increased street safety, lessened noise and traffic disturbance, but a considerable economy in the use of land. A single lot produced by the usual straight streets and square blocks to sell at approximately $900 may be produced by improved methods of subdividing for approximately $750.

Planning Commissions, not City Councils or Boards of Supervisors, are studying these improved methods of making land available for cheaper home-building operations. The Planning Commission, with the co-operation of enlightened realtors, can bring notable economies, as well as greater stability of values to home-builders.

The Committee on Finance, in its report, gives a list of seven causes of foreclosure of mortgages on homes. All but two of these are directly related to planning. They suggest the importance of planning as a stabilizing influence in home financing. The first and most important external cause of foreclosure is:

"General decline in home property values."

This is largely preventable by methods of city building which have been advocated by planners for a generation. To lessen chances for a decline of home property values:

The city should be zoned.

Business and industrial areas must be kept to proper sizes, to proper streets and districts.

Lots in every subdivision should be carefully restricted, not as they are in many subdivisions in California by fake restrictions, which are stiff when the lot salesman wants them to be stiff and very liberal when he thinks a prospect does not like restrictions.

Neighborhoods should be planned to have charm, individuality and character, for the pride which home owners show in such districts tends to prevent a premature decline of property values.

These suggestions merely indicate briefly the manner in which good original land planning may tend to lessen the necessity of foreclosure on homes. There is no reason at all why the owner of a home costing only $1,000 should not have a beautiful home, with its values protected, in a district which he is proud of.

The third cause of foreclosure also suggests the value of planning.

"Intrusion in neighborhood of incompatible elements or other change in character of neighborhood."

An apartment crowding into a neighborhood of small homes can do as much damage as the proverbial bull in a china shop.

The fourth common cause of foreclosure is:

"Home out of keeping with neighborhood."

One realtor tries to do a good job. Many buy his lots and build nice homes upon them. A competitor across the street cuts his lots smaller, puts on cheaper, poorer restrictions and the investments of the first builders are undermined. A planning agency has as part of its duty the prevention of such foul play in subdivision activities.

The sixth cause of foreclosure was:

"Loan made on property in a sub-division not yet developed."

The vacant, weed-covered lot next door is a menace to the security of any home. It represents an extravagant use of pavements, sewers and other utilities. The tremendous inventory of vacant lots in California is a primary cause of much of the present complaint against taxation. Owners of worthless securities laugh about them, but the owner of a vacant, useless lot who can smile when his tax bill comes has never yet been found.

Economists know that the tremendous excess of subdivided property in the regions around all the large cities is an unhealthy condition. In Florida, the over production of lots ruined the state. In Cook County, where Chicago is located, 69 out of every 100 lots are vacant. The taxes and assessments on unused paved streets and sidewalks are partly at the bottom of the very bad financial conditions of Chicago. There are enough vacant lots around Chicago to absorb the population increase of Cook County till 1960. If every family in that county had a go-getting realtor at its head, each one would have to sell two lots to other members of his family to exhaust the present available supply!

The money tied up in unsold, unused lots if released would keep many homes from being foreclosed. The billions of dollars frozen in pavements, ornamental lights and sidewalks, which are going to pieces under the elements in remote subdivisions, would buy comfortable shelter for many needy families or give employment to thousands in the reclamation of slums and blighted areas.

Courageous planning agencies all over the country have been protesting against this condition for years. The planning commissions, as the President's Conference so plainly shows, are not responsible for the follies of realtors. It is part of their duty, however, to protect the lot-buying public from the consequences of these follies.

The seventh item of the causes of foreclosure is:

"Zoning law inadequate."

This is bad planning, but bad planning is often forced upon the community by interests which seek only selfish ends. No

community needs to have inadequate zoning protection any more than it needs to have a bad water supply, grafting police or dumb firemen, if it wants something better. But home owners, strange as it may seem, will risk the loss of their home through foreclosure rather than insist upon the maintenance of a balanced, effective zoning scheme.

The President's Conference, finding so many instances in which savings and benefits come to the owners of modest homes and the dwellers in apartments and tenements through good planning, has given its unqualified support to planning commissions. The loyal backing of the highest officials of the nation and the commendation of such groups of business men and social leaders as composed the President's Conference make it easier for planning commissions to carry on. Over 700 such commissions are serving without pay throughout the nation, and a large part of their work is to make home-owning easier and to make home-builders happier and more proud of their city.

NEAR ORLEANS, FRANCE—A STUDY IN VERTICAL ROOF PLANES AND WALL TEXTURE

« « « « With the Architects » » » »

POST OFFICE BUILDINGS

Plans have been completed by George M. Lindsey and E. P. Eiden, Union Insurance Building, Los Angeles, for a post office building at Glendale estimated to cost $300,000. Plans have been completed by Bebb and Gould of Seattle for a $200,000 Federal building at Longview, Washington. The government is expected to call for bids shortly for an addition to the San Francisco post office building, plans for which have been prepared by George W. Kelham of San Francisco.

MEDICAL SCHOOL CLINIC

Drawings are complete for a six-story and basement Class A medical school clinic for the University of California. Location of the new building is Second and Parnassus Avenues, San Francisco. There is an appropriation of $600,000 for the building, plans for which were prepared by W. C. Hays, architect, Crocker Building, San Francisco.

ARCHITECTURAL CLUB PICNIC

The annual picnic of the San Francisco Architectural Club was held at Searsville Lake, Sunday, June 19th. Otto G. Hintermann acted as chairman of the entertainment committee. On Friday, June 10th, the club rooms were the scene of an enjoyable banquet at which San Francisco engineers were guests.

RUSTIC HOTEL LODGE

A one-story frame and rustic hotel lodge building is to be built in Yosemite Valley from plans by Eldridge T. Spencer, architect, Shreve Building, San Francisco. The structure will cost $35,000. Yosemite Park and Curry Company are the lessees.

PORTERVILLE POST OFFICE BUILDING

H. Rafael Lake, architect of Fresno, is preparing working drawings for a two-story Class A post office building at Porterville to cost $150,000.

FRESNO STORE BUILDING

A one-story Class C brick store building and warehouse is planned for Fresno by Charles E. Butner, architect of that city. The store will be occupied by the Fresno Hardware Company.

COMPLETING ALAMEDA THEATER

The new theater at Alameda, designed by Messrs. Miller and Pflueger, San Francisco, is nearing completion, the last contract to be awarded being for the painting and decorating which was let to the Heinsbergen Decorating Company of Los Angeles. The new playhouse will be open to the public this summer.

BERKELEY RESIDENCE

Messrs. Keefer and Herberger, architects, 770 Wesley Avenue, Oakland, have completed drawings for a $6500 residence in Berkeley for Walter Warren of the Associated Press. The house will have six rooms and garage and is designed in the Spanish style.

ADDITION TO HOME

Construction has been started by the K. E. Parker Company of San Francisco, for a one-story concrete addition to the Protestant Episcopal Old Ladies Home at Lyon and Lombard Streets, San Francisco. F. Eugene Barton is the architect and W. Adrian the engineer.

MEDICO DENTAL BUILDING

A twelve-story Class B reinforced concrete medico-dental building is being designed by William H. Weeks and associates for the corner of Grand Avenue and Harrison Street, Oakland. A corporation of physicians and dentists will operate the $200,000 structure.

ALBEN J. FROBERG BUSY

New work in the office of Alben J. Froberg, Ray Building, Oakland, includes alterations to a five-story Class C loft building, 425 Bush Street, San Francisco; a two-story stucco residence in Hayward for N. A. McConachy, 729 Castro Street, Hayward, and a large home in St. Francis Wood, San Francisco.

PETALUMA BRIDGE

Plans have been completed and bids are being taken for the construction of an $80,000 steel and concrete bascule bridge over the Petaluma River, near D Street, Petaluma. Plans were prepared by L. H. Nishkian of San Francisco.

OREGON CHAPTER MEETING

The regular monthly meeting of Oregon Chapter A. I. A., was held May 17th in the office of A. E. Doyle and Associates, Portland, Oregon. Those present were: Messrs. Jacobberger, Sundeleaf, Howell, Church, Tucker, Knighton, Johnston, Wallwork, Doty, Crowell and Aandahl. Mr. Kauffman of Los Angeles was a guest.

D. K. Boyd's letter regarding memorial services was read and ordered filed.

The Nat. G. Walker financial organization was discussed and a motion to file was lost. After a lengthy discussion, a motion was carried that Messrs. Holford and Brookman be appointed to individually analyze the Walker proposal and make individual reports at the next meeting.

Delegate Wallwork reported that his credentials were considered irregular but payment of his dues eased the situation. The two principal questions before the convention were unification with registered architects, and the Small House Service Bureau. No definite agreement was reached on either subject. The Green Bill relative to employment of architects on Federal work was not discussed at the Institute Convention.

Objection was made to the endorsement of political candidates passed by the Federation of Professional Societies and a motion was passed instructing our delegates to advocate an amendment to the effect that matters of policy must be referred back to member organizations before final adoption.

Motion was made, seconded and passed that the secretary write the Washington State Chapter relative to a joint meeting at some point more convenient to Portland than last year's meeting place.—W. H. C.

BOTTLING PLANT

William H. Toepke, Call Building, San Francisco, has completed plans and bids have been taken for the new bottling plant, distributing station and office building, on Potrero Avenue, for the Dairy Delivery Company. More than $300,000 will be expended on the improvements.

COLLEGE BUILDING

A three-story steel frame, concrete and brick dormitory building is to be erected at Chabot Road and College Avenue, Oakland, for the College of St. Albert the Great. Arnold S. Constable is the architect, and W. Adrian, structural engineer.

Welton D. Becket and Walter C. Wurdemann, architects, have moved their office to Room 208, Edmond Meany Hotel Building, Seattle. The new quarters are commodious and very convenient to university clientele.

William G. Brust, architect, has moved his office to 315 North 50th Street, Seattle.

J. Lister Holmes, Seattle, president of the Washington State Chapter, A. I. A., has moved his office to 504 Republic Building, Seattle.

William Aitken and Alfred F. Moberg, architects, have recently occupied newly fitted quarters at 202 Court Building, 408 Marion Street, Seattle.

Mott M. Marston, 507 Douglas Building, Los Angeles, announces the closing of his office for the summer and he will go to the High Sierras for fishing and sketching. He plans to reopen his office about October 1.

Albert R. Walker and P. A. Eisen have moved from 1012 Western Pacific Building to 507 Signal Oil Building, 811 W. Seventh Street, Los Angeles.

MARYSVILLE POSTOFFICE

Plans have been completed by J. J. Donovan, architect, 1916 Broadway, Oakland, for a one-story and basement postoffice building to be erected at Marysville at an estimated cost of $150,000. Frank A. Johnson, 1916 Broadway, Oakland, is the structural engineer, and Atkins and Parker, San Francisco, are the mechanical engineers.

TEN STORY HOSPITAL

Walter E. Kelly, architect, with office in the Guardian Building, Portland, has started designing a ten-story hospital for the Liberal Arts Hospital and Sanitorium. It will be located at Ninth and Pacific Streets.

POST OFFICE AT BILLINGS

McIver and Cohagen of Billings, Mont., are architects of the post office building to be erected this summer in their home town at an estimated cost of $160,000.

PLAN OIL STATION

The Shell Oil Company is planning to build a number of super-service stations in San Francisco and the Bay territory. The company will also modernize many of its old oil stations.

DOME OF FRIENDSHIP, MISSION INN, HAS SOME INTERESTING FEATURES

A RICH charm and a never-to-be-forgotten fascination envelop California's world-famous Mission Inn at Riverside. And perfectly attuned to the spirit of the Frank Miller hostelry is the beautifully decorated ceiling of Armstrong's Corkoustic in the Amistad Dome (Dome of Friendship) in the recently completed "International Rotunda," designed by G. Stanley Wilson, architect of Riverside.

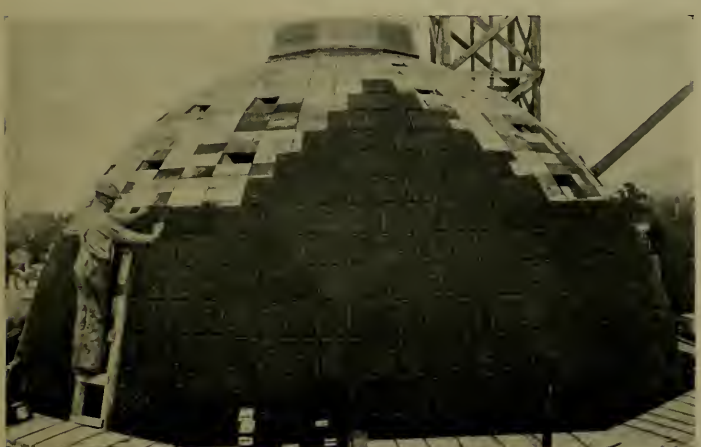
MISSION INN, RIVERSIDE

As shown in the accompanying illustration, a 1-inch thickness of Corkoustic was applied to wood forms. After the dome structure was completed, these forms were removed, leaving the cork exposed on the interior. This surface was then decorated with water color paint.

This distinctive installation was made by the Gay Engineering Corporation of California, insulation contractor, Los Angeles. The Wuster Construction Company of Los Angeles were the general contractors.

International impulse toward good will is embodied in every feature of the 1931 "International Rotunda" addition to the Mission Inn. The structure is exceptionally interesting architecturally as a whole as well as in the bewildering variety of its ornamentation in detail. In the Mission Inn, modern conquistadores find a fabulous city more full of treasure than the cities Cortez or Anza found, for the turn of fortune's wheel has sent the wealth of art from Spain's own cities back into California.

NEW WING OF MISSION INN, RIVERSIDE, CALIFORNIA
G. Stanley Wilson, Architect



THE ARMISTAD DOME, MISSION INN, RIVERSIDE, CALIFORNIA
G. Stanley Wilson, Architect

It is interesting to know that when Mr. Wilson was remodeling eighteen of the Inn's guest rooms some time ago, he selected as his floor a square tile design pattern of Armstrong's embossed linoleum in three tones of terra cotto. He found in this modern material a floor which enabled him to maintain the old Spanish atmosphere of the rooms.

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CONTRACTOR'S PLANS HELD UP

The purported effort of an Amador County contractor to draw plans for a county library building in Amador County, and then charge an architect's fee, was effectively blocked, according to Colonel Carlos W. Huntington, Director of the State Department of Professional and Vocational Standards.

Colonel Huntington said camplaints about Ed Leiby of Sacramento, and Sutter Creek, a licensed contractor, were investigated by the State Board of Architectural Examiners. As a result, he said, the Amador Board of Supervisors announced that Leiby would be unable to charge a $150 architect's fee. Work on the entire project was held up following a conference of A. L. Bolton, Investigator for the Architectural Board and District Attorney Joseph McGee of Amador County.

ARCHITECT WINS CASE

Judgment obtained by Robert B. Stacy-Judd of Hollywood, for $28,120.49 against the six organizers of the Beverly Ridge Company for architectural services rendered in connection with the development of Beverly Ridge estates, has been affirmed by the district court of appeals. Only one of the six organizers, R. W. Purpus, appealed the judgment. The others are Charles Stone, F. A. Arbuckle, John M. Pratt, W. I. Norcross and James Westervelt.

JUNE MEETING

The June meeting of the Southern California Chapter of the American Institute of Architects was held at the Athenaeum, California Institute of Technology, 551 South Hill Street, Pasadena, June 14. The meeting was devoted entirely to the business of the Chapter.

PALO ALTO RESIDENCE

Plans have been completed by Charles Sumner, architect, 760 University Avenue, Palo Alto, for a $14,000 residence for Egerton Lakin. The house will be built on Edgewood Drive, Palo Alto.

TWO RESIDENCES

Irvine and Ebbets, 2048 Market Street, San Francisco, have completed plans for two $5500 Spanish dwellings to be built on 19th Avenue, San Francisco, for John W. Rogers.

R. J. NEUTRA HONORED

Richard J. Neutra has received a call from the University of Southern California to offer a course in Graduate Architectural Design.

LIGHT WEIGHT CONCRETE AGGREGATE NOW MANUFACTURED ON PACIFIC COAST

ALTERATIONS under way in the Pacific National Bank Building, San Francisco, O'Brien and Peugh, architects, mark the first use in San Francisco of concrete made with Haydite aggregate. The latter is obtained by burning undried clay. The moisture in the damp clay changed to steam, acts like yeast in the housewife's bread, and there results a hard, durable aggregate of cellular structure and of very light weight. When used for making concrete this aggregate effects a very considerable reduction in weight. Ordinary concrete weighs 150 pounds per cubic foot, whereas the concrete made from Haydite weighs from 85 to 105 pounds per cubic foot, depending upon the class and grading of the material. For fireproofing purposes the weight of Haydite concrete can be reduced to even 75 pounds per cubic foot.

This aggregate has been used quite extensively throughout the east in recent years. It is being manufactured at the San Rafael plant of the McNear Brick Company. At present the company is operating with a small experimental kiln, but in ninety days time a large plant, capable of producing 150 cubic yards per day, will be installed and will be in operation. The material will be stocked in all the principal Northern California cities.

Concrete made with Haydite aggregate is particularly well adapted to use where it is necessary to hold the dead weight of the construction to the lowest limit possible; therefore, on long span bridges, addition to existing buildings and in similar cases the light weight concrete is particularly desirable.

The insulating qualities of concrete made with this porous, vesicular aggregate, are superior to those of ordinary concrete. This aggregate also has numerous lesser uses. Concrete masonry units made with it are of lighter weight, consequently they can be handled more readily. It has proven very successful as an aggregate for making laundry trays. With its excellent insulating qualities it is well adapted to precast roof slabs. Various similar uses will undoubtedly suggest themselves to the reader's mind.

The accompanying illustration shows the office of E. J. Mehren, president of the Portland Cement Association, at Chicago, Ill. The walls are of concrete ashlar units laid in patterned random.

OFFICE OF E. J. MEHREN, PRESIDENT OF PORTLAND CEMENT ASSOCIATION, CHICAGO, ILL.

ADVOCATES COMMUNITY HOTELS

J. E. Tourtellotte of Tourtellotte and Hummel, architects, Portland, Oregon, is advocating the immediate construction of community hotels as a relief for the present economic conditions.

"Hotels can be constructed at costs which will make it possible for them to operate successfully at low tariff rates that will attract business," Tourtellotte said.

ALL ABOUT WINDOWS

Curtis Companies of Clinton, Iowa, have, through their Service Bureau, recently issued a very interesting booklet describing in detail their new Silentite Pre-Fit windows. This booklet, although written and illustrated in a somewhat humorous vein, is most informative and delves into the history of windows covering a period of 3300 years. It is suggested that this data is of decided value to every architect and builder. Copies may be obtained from the home office of the company on request.

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NORTHERN CALIFORNIA CHAPTER HONOR AWARDS

THE recent exhibition of architectural work by Northern California architects, held in the de Young Museum, Golden Gate Park, San Francisco, was marked by jury awards for outstanding examples of meritorious architecture. The jury was composed of Harold C. Chambers of the firm of Myron Hunt and Harold C. Chambers, Los Angeles; Gordon B. Kaufmann, president of the Southern California Chapter of the A.I.A., and Raymond W. Jeans, instructor in architecture of the University of California, San Francisco.

In arriving at a decision the jury considered all of the relevant matters of importance, including plan, color, architectural beauty, adaptation to situation, use of materials, and so forth.

The various types of buildings are classified and there is no competition between the different types, for example, the houses are in three groups, small, medium and large. There are also industrial, semipublic, office buildings, theatrical buildings, and various other types considered separately.

In making the awards, the certificates are given not only to the architects who designed the structures but also to the owners and builders. The awards follow:

SECTION 1, CLASS A—House of Mr. Frederick H. Reimers, Oakland; Frederick H. Reimers, architect.
House of Mr. Thomas E. Church, Pasatiempo Estates, near Santa Cruz. William Wilson Wurster, architect.
House of Mrs. Robert A. Howes, Pasatiempo Estates, near Santa Cruz; William Wilson Wurster, architect.

SECTION 1, CLASS B—House of Ferdinand Bendheim, Palo Alto; Henry H. Gutterson, architect.
House of Mr. Clarence A. Tantau, Berkeley; Clarence A. Tantau, architect.
House of Miss Marion Hollins, Santa Cruz; William Wilson Wurster, architect.
House of Dean Arnold, Hillsborough; Gardner A. Dailey, architect.
House of Mrs. Leslie Moore, Atherton, Cal.; Martin Rist, architect.

SECTION 1, CLASS C—House of Mr. Clarence E. Walter, Atherton; Henry H. Gutterson, architect.
House of Mrs. Walter Brant, San Mateo; Clarence A. Tantau, architect.

CLASS D, SECTION V.—Normandy Court, Stockton, Cal.; J. A. Clowdsley, architect.

CLASS D, SECTION VI.—450 Sutter Street, San Francisco: Miller & Pflueger, architects.

SECTION VII.—Store front, 141 Kearny Street, San Francisco, Moore, Ltd., owner, Bliss & Fairweather, architects.

SECTION VIII.—Chenery Filter Plant, near Concord, Cal., William Wilson Wurster, architect.

SECTION IX.—Stock Exchange, San Francisco, Miller & Pflueger, architects.
Associated Oil Service Station, Oakland; Masten and Hurd, architects.
Dining Pavilion at Yosemite National Park; Eldridge T. Spencer, architect.

SECTION XV.—Chamber of Commerce, Monterey; W. O. Raiquel, architect.
El Camino Dormitory; owner, Menlo School and Junior College, Atherton, Cal. Birge M. Clark, architect.

SECTION XVI.—Interior of Paramount Theater, Oakland, Cal. Miller and Pflueger, architects.

In certain classifications there were no exhibits submitted and therefore no awards were made.

W. H. WEEKS REINSTATED

A second hearing of the charges against W. H. Weeks, architect, of San Francisco, in which it was sought to have his license revoked, resulted in dismissal of the case by the California State Board of Architectural Examiners of the northern district.

At a previous hearing a year ago Mr. Weeks' license was revoked. He appealed to the Superior Court and Judge Goodell held the hearing before the State Board had not been regular in that witnesses were not sworn. An appeal sustained this decision.

Later the board ordered another hearing on the complaint of J. A. Bryant, a contractor.

At this hearing, at which sworn testimony was taken, the board found there was insufficient evidence to warrant a further revocation of the architect's license.

REDWOOD THATCHED ROOF

A thatched roof of California redwood has been made possible through the enterprise of the Holmes Eureka Lumber Company, 947 Monadnock Building, San Francisco. These roofs have an appeal which discriminating architects will readily appreciate. They afford opportunities for very lovely roof lines for both modest and pretentious homes. Beauty and durability are important selling points. Redwood thatched roofs are rugged in appearance, deep in shadow lines and they keep a home cooler in summer and warmer in winter. They may be laid over ordinary roofs at comparatively small cost. They are made of the best grade of California redwood and marketed through established retail distributors throughout the state of California.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This Month: Steel prices advance $3.00 a ton—Lumber and millwork higher.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $27 to $33 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—40c to 55c per sq. ft.
Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.40 per bbl.
Cement (f.o.b. Job, Oak.) $2.40 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$16.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.35 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$100.00 M ft.
1 1-16x2¼" T & G Maple	127.00 M ft.
⅞x3½ sq. edge Maple	120.00 M ft.

	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	14c ft.	12 ft.	11c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.35 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 85c per gal, in cans and *9c per gal. in drums.
Raw Linseed Oil—71c gal. in bbls.
Boiled Linseed Oil—72c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.
1 ton lots, 100 lbs. net weight 10½c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots.....10¾c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10½c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots.....10¾c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt. 12c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....12¾c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

⅞-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 6 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$77 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $70 to $75 per ton cost of steel; average building, $75.00.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricktayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caissnn workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

« « « Society and Club Meetings » » »

NORTHERN CALIFORNIA CHAPTER

The April meeting of Northern California Chapter, the American Institute of Architects, was held at the Allied Arts Guild of California, Ltd., Menlo Park.

As an expression of greeting to the newly organized Northern California Chapter of the American Institute of Interior Decorators, the meeting was held jointly with this group.

The invitation of Mr. and Mrs. Garfield D. Merner to meet at the Allied Arts Guild was responded to with an attendance of sixty architects, decorators and guests.

From the interest which was manifested, it was apparent that the visitors found a great deal to enjoy in wandering through the buildings and grounds, in observation of the work which is being conducted there.

Following dinner, a business session was conducted by Henry H. Gutterson.

As President of the Chapter, he welcomed the advent of the newly organized Northern California Chapter of the American Institute of Interior Decorators. His remarks stressed the advantages of closer contact in which cooperation will be brought about through personal acquaintance and better understanding of the functions of each profession.

Arthur Baken, the President, Mr. Wallace, the Secretary, and other officers of the Chapter of Interior Decorators responded with brief talks.

Mr. Gutterson announced that in keeping with the custom of the Allied Arts Guild, the money derived from the dinner would be for the benefit of the Stanford Convalescent Hospital.

A letter from Mrs. Howard expressed her appreciation of being presented with a copy of the Chapter's resolution in memory of its late member, John Galen Howard.

Mr. Gutterson reported that the State Board of Architectural Examiners has officially adopted the Circular of Information as prepared by the Chapter's Committee on Education and recommends it as a guide for applicants appearing for license.

A motion was unanimously passed that the San Francisco Art Commission be requested to give definite consideration to the matters initiated by the Chapter in a program suggested for the improvement and beautification of the city.—J.H.M.

WASHINGTON STATE CHAPTER

The May meeting of Washington State Chapter was held in Seattle on Thursday, May 5. The events of the evening opened with a social gathering at the offices of McClelland and Jones.

At the conclusion of the dinner the meeting was called to order by President Holmes.

There being no unfinished business the reports of committees were made. The committee on ordinances reported its opposition to the "fee permit" ordinance then before the City Council. While the committee was unsuccessful in preventing its passage it was able as a result of conferences with Colonel Bickford, Superintendent of Buildings, and Mr. Fowler of the Building Department to secure some changes.

Mr. Young next reported for the membership committee, of which he is chairman. The committee felt that the principal sources of new institute memberships were from the Chapter Associates whose terms were expiring and for all memberships from experienced designers and draftsmen such as were present at the meeting in considerable numbers, and from those who had recently become engaged in architectural practice. To decrease the financial burden, changes in the Chapter by-laws were proposed, eliminating the initiation fee for Chapter Associates and reducing the dues for this class of membership to ten dollars, with elimination of the provision reducing the dues for those residing more than twenty miles from Seattle. The report of the committee was accepted and the proposed amendment made an order of business for the next regular meeting.

The meeting was then turned over to Donald Thomas, chairman of the program committee, who introduced Bruce MacDougall of the prosecuting attorney's office, who gave some musical selections on the banjo with Victor Jones at the piano. Duke Westcott afterwards introduced some additional attractions; Miss Emily Helgar, vocalist; Tommy Duke, monologist, and Miss Mary Tibbitts, dancer, and the evening's entertainment concluded with a talk by Kenneth Curtis, who spoke of conditions he had found during a recent trip around the country.

S. F. ARCHITECTURAL CLUB

Eleven scholarships for San Francisco Architectural Club members in twelve years! A record for any organization! Arne Kartwold is the winner of the Harvard scholarship for the coming year and Frank Gerner placed third. The boys are a credit to the club and to themselves, for they had to compete against the world for this coveted award. The S.F.A.C. has placed a member for eleven out of twelve years. Patrons Frick and Weihe have reason to be proud of their efforts as well as the boys, for they have all worked extremely hard towards this goal. In fact the entire Atelier is going stronger than ever before as are all of the classes which include the Engineering, Detail, Shades & Shadows, Life, Order and History. We certainly wish Arne Kartwold the best of luck during his term at Harvard.

* * *

The State Association of California Architects awarded the mid-term prizes to the following: Class "A"—David Kensit; Class "B"—Walter Krohn and W. Riordan; Analytique—Arne Kortwold and Walter Mooney.

The Atelier dance held in the club rooms marked the opening of the summer social activities last month. The attendance was large and the crowd could not break away till the wee small hours.

* * *

The regular monthly meetings this year are over three times as well attended as in the past, and President C. J. Sly has all he can do to take care of the demands of those present. Each meeting holds a bit of interest in the way of a moving picture, lecture, modeling, or what have you. And of course there is always the feed in the buffet.

* * *

Harold Wagner has returned from an eight months trip through Europe and gave the boys a thrill, relating a few of his experiences.

* * *

On May 16th, the club visited the Laboratories of the University of California and enjoyed interesting experiments with various equipment.

* * *

The annual picnic will be the next important event on the calendar and Otto Hintermann promises many a thrill. There will be plenty of excitement in contests for loving cups and trophies.—D.E.J.

WASHINGTON STATE SOCIETY

Steps to combat the proposed Seattle ordinance providing for building permit fees, were taken at the May 12 meeting of the Washington State Society of Architects. John S. Hudson, president, related progress on the Cascade tunnel idea. Reports are expected soon from Stanley Smith and Harry C. Weller of Pullman, the society's delegates to the architects' convention in Washington, D. C.

SPOKANE SOCIETY OF ARCHITECTS

Secretary Ogden F. Beeman of the Spokane Society of Architects, stood second in the largest total of contemplated work listed at the recent "Put 'em to work" campaign.

Harry W. Weller of the department of architectural engineering at W. S. C., represented the eastern section of the Washington A.I.A. Chapter and the Spokane Society of Architects at the national A.I.A. convention in Washington.

On April 22 the Spokane Society heard Ed Riner, representing the Spokane Paper and Stationary Company, relate his experiences in the use of thermax. On April 29 Ray Stedman, special representative of the paint department of the Pittsburgh Plate Glass Company, demonstrated a recent company product.

C. Raymond Butcher talked on "The Development of Sketching and Rendering", before the architectural students at W. S. C. on May 17. Previously he had addressed 150 employees of the John W. Graham Company on "Interior Decorating from the Standpoint of the Architect."

ARCHITECTS MEET

Tacoma Society of Architects entertained the Washington State Chapter, A. I. A., on June 18. President Ernest T. Mock of the Tacoma Society, who is also a vice-president of the Washington Chapter, presided. Reports from the proceedings of the national convention were presented and conditions throughout the country were discussed at length.

OPENS LOS ANGELES OFFICE

The M. B. McGowan Company of San Francisco, which has completed the wrecking of Ross Field, war-time balloon training school at Arcadia, announces that it will maintain a Southern California office permanently. Over two million feet of lumber from the structures at the balloon school have been sold within the past month.

JAMES S. GROVES, ARCHITECT

James S. Groves of San Diego, died May 18 at a hospital in that city following an operation for appendicitis, aged 41 years. He came to San Diego from Washington, D. C., six years ago. He was a member of the Masonic and Scottish Rite lodges and the down-town Lions' Club.

MYRON HUNT ON DESIGN

Criticism by the more radical element among architects and writers on architecture can perhaps fairly be said to be the result of an impatience with concessions of plan and of structural form, for the sake of looks. It is, I believe, quite fairly met by a like impatience, on the part of conservatives, with unnecessarily obvious and often illogical structure and plan.

It seems to me that the matter of style is of secondary importance, and that certain satisfying fundamentals of good looks have been met in every successful building in every great style or period. If plan, lighting, and structural common sense be largely sacrificed in an effort toward archæology, the resulting design will suffer. Large concessions to and over-emphasis on structure, plan, and other necessities have likewise produced much work that surely will not stand the test of time and good taste.

It is hard to call to mind any successful architecture of any time that has been conceived in the strict terms of structure and function alone. Even in the most satisfactory modern design—the design of machines—there will be found elements that are not essential to the machine and its prime use. The outward mould of a fine motor car follows the lines of chassis, engine, transmission, hardly more closely than, say, the stone work of the Metropolitan Club its steel frame. The grinning skulls of humanity are, to be sure, not denied in the countenances of our friends, but by the kindly provision of nature they are not entirely evidenced.—*Pencil Points.*

NEW COAST MANAGER

E. F. Gohl, formerly manager of the Los Angeles District of the McClintic-Marshall Corporation, has been appointed Pacific Coast manager, with offices at 20th and Illinois Streets, San Francisco, and will have charge of all activities of the McClintic-Marshall Corporation on the Pacific Coast.

Mr. Gohl was graduated from Lehigh University in 1907, and has been with the McClintic-Marshall Corporation since that time.

LOOK OUT FOR HIM

A man, as yet unidentified, representing that he has a prospective building job, approaching contractors and building supply men but giving no definite information, and returning shortly to ask the favor of cashing a check later found to be fictitious, has victimized a number of persons in Los Angeles, it is reported. — *Southwest Contractor and Builder.*

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THE ARCHITECTS SMALL HOUSE SERVICE BUREAU

ON the subject of Institute endorsement of the Architects Small House Service Bureau, the report of the Board to the convention in Washington read as follows:

There have come to the Board official communications from Chapters opposing continuance of endorsement of the Bureau by the Institute and a suggestion that the columns of The Octagon be thrown open to the opposition. This was done and there was published in The Octagon a summary of arguments presented to the Executive Committee of the Board at its meeting in Washington in February, 1932.

From these statements it appears that the present movement in opposition to the Bureau was aggravated by the proposed cooperation of the Bureau with the National Homes Finance Corporation. The Board approved this cooperation in principle, at its meeting in Louisville in November, 1931, and requested the Small House Service Bureau to submit any proposed agreement to the officers of the Institute so that they might be certain that it was consistent with its endorsement.

The policy of your Board of Directors has consistently been to endeavor to follow the mandates of the membership as expressed in convention assembled. To that policy this particular Board adheres. To better learn the wishes of its members it has arranged for a session of the convention devoted to this subject:

In addition to correspondence in opposition to the Bureau, the Board has received from various individuals, Chapters, and groups of Chapters, argument and resolutions in favor of the continued endorsement of the Bureau. A careful study and analysis of this material and the material in opposition raises the question whether or not the membership is as well informed as it might be of the methods and aims of the Small House Service Bureau and the Board therefore urges the delegates assembled to give most careful attention to the facts as they may be presented by both sides of the controversy.

It seems proper to the Board to record at this point its appreciation of the devoted services and public spirited work of those many loyal members of the Institute who have devoted themselves for years to effect the aims of the Bureau.

From the study of evidence and opinions submitted, the Board is of the opinion that common ground can be reached which will remove the controversial points sufficiently to meet all practical demands.

The program of the convention provided an open forum discussion for the question of Institute endorsement of the Bureau. There were two principal speakers favoring Institute endorsement, namely William Stanley Parker, of Boston, and Arthur C. Holden, of New York.

The two principal speakers opposing Institute endorsement were Seymour Williams and C. V. R. Bogert, both of New Jersey.

Very able presentations of the opposing points of view were made by each side, and thereafter

the open forum discussion, which was scheduled to last for thirty minutes, extended into a general debate of approximately two hours.

During the debate opportunity was given by President Kohn for the expression of every point of view on the many phases of the question involved.

The action of the convention was as follows:

Resolved, That the whole question of the endorsement of the Architects' Small House Service Bureau by The American Institute of Architects be referred for investigation and report to a special committee to be appointed by the Board of Directors, and consisting of an equal number of representatives from each side of the question; that the special committee be instructed to consider the discussion by the convention, the proposals and suggestions offered during that discussion, and the sense of the meeting as expressed by the vote of the convention; and that the special committee be instructed to report to the Board of Directors, which shall have full power to act on the report of the committee and its recommendation between now and the Sixty-sixth convention.

At the meeting of the Board of Directors following the convention, on April 30, the Board appointed a special committee as follows: Robert D. Kohn, Chairman, New York; Dwight James Baum, New York; C. V. R. Bogert, New Jersey; Seymour Williams, New Jersey.

(Two members are yet to be appointed.)

The entire transcript of the convention discussion has been submitted to the special committee, which is now at work under the resolution of the convention.

FRANKLIN MORSE SPENCER

Franklin M. Spencer, president and founder of the Spencer Elevator Company, San Francisco, died of pneumonia at the Palo Alto Hospital May 21st after a brief illness. Mr. Spencer had enjoyed excellent health until a short time prior to his death. The Spencer company was known throughout the Pacific Coast where Spencer-Westinghouse elevators are in operation. The deceased was 59 years of age and a native of Grass Valley, California.

Mr. Spencer worked his way up from an office boy to president and manager of the company which bears his name. He was a Mason and a member of the Olympic Club. The Spencer country estate at Menlo Park was a source of great pleasure to him for he enjoyed nature's bounteous gifts with which his estate was richly endowed. Mr. Spencer did much for charity and helped many an unfortunate with his kindly advice and financial assistance. He is survived by his widow, Mrs. Edith O. Spencer.

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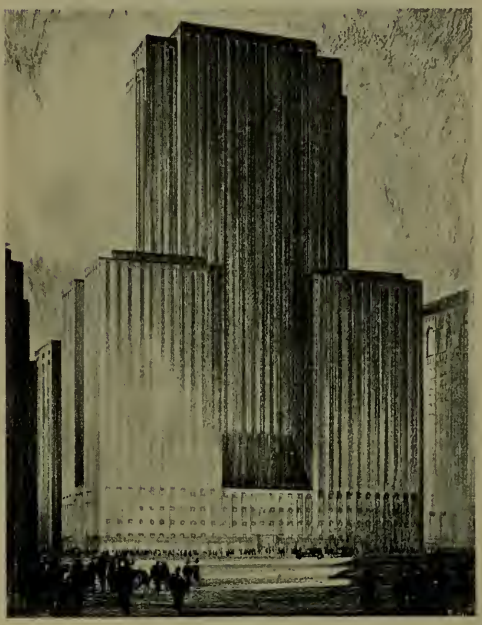

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CURBING THE COST OF LAND

Real estate should not be regarded as a community, according to Arthur C. Holden of the New York Chapter of the American Institute of Architects. Much of the present economic difficulty, he holds, is due to the error of treating capital, and especially real estate, as if it were a commodity.

"In reality, the administration of real estate is more of the nature of a public trust," declares Mr. Holden in a statement issued by the Institute. "Realtors are trustees charged with matters of fundamental social and economic import rather than mere commodity merchants.

"The broad gauge real estate man who recognizes his position of trust is the hope of America today. There is, however, a great deal of false philosophy which he must live down before his leadership can be followed with unqualified approval. Too many realtors have supported the fantastic doctrine that population increase guarantees a permanent bull market in real estate.

"The building industry has recently awakened to the necessity for reducing the cost of its product. Research of a highly scientific nature is already under way with a view to developing new materials and new methods of construction. It is too soon to predict the changes either immediate or ultimate which may result.

"The building industry has, however, already awakened to the fact that it cannot succeed in reducing the cost of its product if land costs are to continue to mount. The high light of the 1932 convention of the American Institute of Architects was the report delivered by Frederick Bigger for the Committee on the Economics of Site Planning and Housing.

"It is a direct challenge to the realtors that architects should already have found it necessary to broaden their research studies to include the subject of land administration. They are pointing out effectively that the charges due to land administration must be kept down.

"It is encouraging to find realtors, builders, architects, and financial interests working together to find a solution to problems which are too broad and too interrelated to be studied alone by any one of the group. For some unknown reason real estate has too long been looked upon as something very much apart from the building industry.

"The building industry on its side has too frequently misunderstood the forces which controlled the administration of land. In fact, it has been the unbridled ambition of the building industry, aided, of course, by the high powered salesman type of realtor, that has contributed largely toward creating our present chaotic condition. The developing builder has been the most zealous

seeker after both cheap land and expensive land. The architect, the engineer, and the inventor of scientific improvements have zealously promoted the increasing intensity of the use of land.

"Until recently the price of land appeared destined to continued advance, despite the fact that the supply of usable land was increasing very much more rapidly than the population, and in addition ways and means were being found to make a given piece of land do many times the work of which it was formerly capable. Investigation in the field of land economics brings out paradox after paradox."

1932 HOTEL RED BOOK

The new 1932 edition of the Hotel Red Book, out June 6th, is the first under Emerson D Owen's management. The issue is the fifth under the auspices of the American Hotel Association of the United States and Canada.

More changes in listings are shown in this edition than in any other year in Red Book's 47 years of existence. Due mainly to shifting economic conditions, there are actually 4,554 revisions in rates, names of managers, etc. It is practically a new book.

An unusually interesting feature which serves to brighten the pages of the current issue, is an advance printing of pages from a booklet entitled, "Who Gets Your Hotel Dollars?", which will be made available for distribution by hotels.

NEW CITY MANAGER

Horace Hovey Esselstyn, consulting engineer of Detroit, Mich., has been appointed city manager of San Diego under the city charter. Mr. Esselstyn is 57 years of age. He has had a varied experience in engineering practice. Originally an architect and engineer he designed and supervised the construction of several of Detroit's large automobile factories. As resident engineer he completed the construction of the $30,000,000 Hog Island shipbuilding yard.

MORAL: EMPLOY AN ARCHITECT

Lack of architectural service was mainly responsible for the balcony crash in a Chehalis store, opines Silas E. Nelsen, Tacoma architect. The owner skimped on professional services. Several persons were injured in the balcony collapse. The resultant damage suits will probably cost many times the architectural fee which was saved, it is pointed out.—*Pacific Builder and Engineer.*

STORE REMODELING

F. Stanley Piper, architect, is preparing plans for remodeling a store building on Cornwall Avenue, Bellingham, which is to be occupied by the Newberry Department Store.

James W. Plachek, *Architect*

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ARCHITECTS AID NEW LAW

"Praise must be given the architects of California," states Colonel Carlos W. Huntington, Director of the State Department of Professional and Vocational Standards, "for their material aid in establishing the Contractors' License Law as an effective piece of remedial legislation." Colonel Huntington, who is also Registrar of Contractors, as well as Director of the Department under which thirteen of the State Boards are grouped, states that the architectural profession has taken a firm stand in support of the new law, as an adjunct to the protection they themselves attempt to render the public in dealing with contractors.

"Bid forms, calling for the contractors' state license numbers, are in use by many architects," states the Registrar, "and serve a four-fold purpose. In the first place, an architect who unwittingly accepts a bid from an unlicensed contractor may find himself in a most embarrassing position; Should the bid cover public work, an action could be brought to dissolve the contract, or an action to stop payment, or possibly one for damages against officials who might have authorized payment to such contractor. In the second place, an architect who demands a contractor's license number is assisting the state in calling attention to the law, which requires that a state contractor's license be secured before a bid is submitted. Again, the architect by requiring license numbers of bidders, is warning prospective bidders who might ordinarily bid in good faith, while unlicensed, and then find their bid disqualified because of their failure to have secured a license. Finally, he is indirectly warning bidders that the requirements of the law must be complied with, or the contractor's license will be placed in jeopardy. The fact that the architect calls the law to the attention of bidders has a moral effect and a stabilizing influence."

The law provides that a contractor's license may be revoked or suspended for abandonment of contract, diversion of funds or materials, disregard of plans or specifications in any material respect, violations of state or local laws regulating construction, or the laws protecting employees, failure to keep proper records of receipts and disbursements, misrepresentation in securing a license, or the doing of any wilful fraudulent act.

Colonel Huntington further states that Governor Rolph's administration is attempting to secure maximum protection for all concerned under the various laws administered by the boards within his jurisdiction. The boards most directly interested in the application of the Contractors' Licence Law, are the Board of Architectural Examiners and Board of Registration for Civil Engineers.

ARCHITECT NEEDS SYMPATHY

George H. Bugenhagen, architect, of Minot, North Dakota, addressed the contractors of North Dakota recently on "The Owner, Architect and Contractor." He said in part:

"There are many types of men, with many types of dispositions in the architectural profession. In fact there are probably more peculiarities among the men of this profession than of any other. I believe that this is true largely for the reason that there are a number of fundamental causes affecting different temperaments in different ways.

"First, take the investment of authority that his position as architect bestows upon him. This alone often calls for a larger hat. Then take the effect that the ever present coercion and flattery of various agencies that are constantly seeking to gain his favor and good will, has upon him.

An architect feels keenly his responsibility when commissioned to draw plans for a building involving thousands of dollars, for he knows that the client confidently believes that his architect will spend his money wisely and efficiently, and I believe he does try to spend his client's money efficiently.

"An architect who is thus conscious of his responsibility to the owner, also feels a similar responsibility toward the contractor. He knows that the contractor, too, has a right to a square deal from the owner, in exactly the same degree that the owner expects to get 100 per cent value for the money he pays to the contractor. As extras should be fully paid for, just so should full credit be given by the contractor for any omission that may be effected by changes, and entirely without sympathy to the contractor if his bid is too low.

"Any contractor carelessly bidding low, should not expect any sympathy from the conscientious architect. Further, such a contractor is perhaps the biggest nuisance in the construction field, as he most surely discourages honesty, fair play and seriously prevents the possibility of anyone making a fair profit; he hinders progress in the building industry. Such a proceedure can only lead to bankruptcy and gross dishonesty. The owner is probably the only one that profits from such practice and he does not profit as he should; for would it not be better that he get a first class job, even though he had to pay a reasonable profit?

"The conscientious architect will furnish his client a well-studied solution of the problem in hand; he will plan the building to suit the business to be housed, and to save labor in the operation of the business. The first cost must be consistent with the purpose of the building; he will also plan with a view toward safety of the public and the health and comfort of the occupants, and keep clearly in mind the possibility of future ex-

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pansion and additions, so that they may be constructed at a minimum of expense. The architect will also keep in view the various nuisances that accompany certain types of buildings, such as radio, corridor traffic, and numerous mechanical contrivances as such nuisances, when allowed to disturb tenants will materially affect the building investment.

"May I ask that you builders have a little more sympathy for the architects? It's not nearly as simple a profession as it appears to some of you; once the general scheme of a building has been worked out, it is not very difficult to draw the construction plans; but to get everything in a plan, that is essential to be there, that is a problem, and one that requires thought, vision and imagination.

"Suppose we consider a complicated job, such as a large hospital, with its many specialized and varied departments, the surgery, the X-Ray, the laboratory and biology departments, therapy department, children's wards, obstetrical department, main kitchen, diet kitchens, clean-up rooms, school of nursing, records, supervision facilities, etc., down to the padded cell for D. T.'s and the many special devices and forms of equipment that are required in these various departments.

"Now place yourself in the position of being the creator of such a plan, of having the responsibility of putting this combination together, and remember it must be done for a certain pre-determined cost. When you think you have it all arranged, you ask yourself: Have I missed anything? Have I made a bull anywhere? Will it be a success or will I be forever damned?

"Another phase of the conscientious architect's duties is—Cost. The man of technical knowledge and experience has ever before him the item of cost. If this governing throttle were not ever present, the architectural profession would be a paradise.

"How to save money and not sacrifice utility and beauty are his concern; he will use economical spans and spacings for beams, joists and trusses. He will avoid long beams where shorter spans and a few more columns will save money. He will increase roof areas if thereby he can reduce wall areas that cost twice the amount per square foot.

"Often a nice saving can be made in first-floor construction in such places where a few extra columns will not be objectionable, for by doing so you can cheapen the slab, reduce the cost of beams and on the whole save money; such savings can be used to much better advantage in better interior finish, better floors, and in other ways.

"I venture to say that often sales engineers would like to suggest to the architect how a saving might be made in the structure, but unfortu-

nately because the architect has placed himself on a high pedestal the engineer fears that his prestige with him might be lost, and dares not venture too near. So pride rules, the owner pays, the architect is none the wiser, and all are losers.

"Finally, when you are ready to make blueprints, something pops up that has been overlooked, and so on, far into the night, you worry on. Pride and ego will not carry you through the test, and then, finally, when the job is finished, it is all there before you, a monument to success or a monument to failure, and you ask yourself Have I spent my client's money wisely? Sooner or later you will find some things you would do differently the next time. Some of them make you blush; your conscience pricks you, and you wonder if anyone else has noticed it.

"Let's be fair. Architect & Contractor, Inc., jointly built the hospital, with one object in view, and that object is a highly satisfactory result, that will be a credit to both architect and builder. Let both architect and contractor so conduct themselves that good will and credit may grow into greater success.

"Now let's consider some of the scars that mar our profession, scars from which architects and builders alike are sure to suffer, and have suffered. I refer to cracks, hair-cracks and more cracks. Most of you, I am sure, have gone back to a job six months or a year after completion and found cracks that you never expected to appear.

"You have taken special pains that the gravel was clean, the mix right and all that, and yet the cracks stare you in the face. Yes, you even used extra cement to show that you were trying to be right. Still, there it is. You feel a blush coming over you, and you look around to see that you are alone and finally, in a cooler frame of mind, you decide that there are three things that are certain in this old world, and they are death, taxes and cracks in buildings.

"I am going to give you my opinion why this cracking occurs—Portland cement has a natural shrinking characteristic; that is why a plain reinforcing rod placed in concrete twenty-diameters will break in two rather than slip out of the grip of the concrete, and the grip of the concrete is due entirely to shrinkage.

"The only way you can prevent cracking is to sufficiently reinforce with light reinforcing, so that this tendency to shrink will be distributed throughout the entire surface instead of letting it give way at some weak point.

"How often have you been accused of doing poor work by an owner and his architect, because cracks developed in your work, whereas, if proper reinforcing had been specified and installed, in all probability cracks would not have occurred."

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DEVELOPMENT and expansion of the insurance idea is one of the indices of the progress of American business; it is evidence of an intensifying realization that stability and safety are fundamentals of commercial and industrial success.

Basically, insurance is protection or assured safety; more specifically, it is a guarantee against interruption in the processes of life and business and a potential compensation against those hazards which threaten life and property with neither sudden nor gradual destruction. There is insurance against fire, wind and lightning, and floods which may consume or destroy the physical properties in which capital has been invested; there is insurance upon human life against the hazards of ill health, accident, old age and death; there is insurance against weather conditions which may be adverse to our interests, and there is insurance against monetary losses which may be incurred through ineptness and dishonesty. There is also an insurance against losses to businesses and partnerships through loss of services of individuals. In fact, there is a form of insurance against almost every possible loss to which persons or properties are subject.

With physical property, in the form of stores, hotels and office buildings, as with human beings, there is now an accepted form of insurance against old age. In the case of human beings it is called life annuities; with physical properties it is an amortization reserve. Sketchily defined, amortization is the creation over the years of a fund to compensate for the loss of property when, because of old age, it ceases to be useful or remunerative.

Amortization admits the inevitability of total loss, final destruction. In that principle, as applied to building properties, it is faulty because of its inadequacy. It does not extend its beneficence to the limit of its possibilities. It accomplishes only half a task; a similar fund could prevent loss, just as effectively as it compensates loss. Let me illustrate.

The incipient consumptive is advised that he may prolong his life, possibly even to his allotted three score years and ten, by drinking three glasses of milk daily. Instead of drinking milk, let us suppose he sets aside the price of that milk each day and creates a fund equivalent to the cost. That is a form of amortization. But if he follows the advice given, he takes the prescribed amount of milk daily. In doing so he daily combats the inroads of disease. That procedure when applied to properties involves the principle of absolescence

insurance. It is a means to combat the ravages of time as those ravages approach; it is a preventive as well as a cure.

There is in America, I know, a very generally accepted theory that buildings are a deteriorating investment and that ultimate loss is inevitable. When one buys a suit of clothes or a mule, certainly he understands that the property he is acquiring will in time deteriorate; but he fails to discriminate between investments of this character and investments in buildings, the permanency of which has not been property appraised nor the means to attain that permanency adequately conceived.

The rule of the mule does not apply to the store building and its equipment. But it has been permitted to apply. A building owner apparently will go on from year to year and see his property become more and more antiquated. When this happens the building has ceased to earn what its reputation and management entitle it to, and all because the owner has not fought off the stealthy inroads of obsolescence.

Obsolescence insurance does not recognize that ultimate loss is either necessary or inevitable. In principle it maintains that property may be kept up to its original investment value by the intelligent allocation each year of a sum of money for that purpose. But it goes even further. It provides that this money shall not lie idle but shall be spent regularly, as conditions develop, for the purpose of maintaining the property to its full earning status. It operates to prevent declining cash returns.

In effect, this obsolescence insurance provides the means of carrying out a definite plan, a regular and continuing program of modernization as one part or another of the store or its equipment becomes out-of-date. It means the introduction from time to time of new and improved aids to service.

There are two phases of this process of obsolescence in a store or building. One is the aging of the equipment which is not seen or directly used by the customer or patron; this includes appointments such as the heating plant, the plumbing and general office equipment. The other is the part with which the public comes in direct contact, both visually and physically. There seems to be no question but that this latter is the more important particularly in its effect upon the mental attitude of the customer or patron.

The public resents poor accommodations when it comes to buy or transact business. The dinginess of old age is taken as an affront. Nothing will create this unfavorable atmosphere more certainly than an out-moded elevator; nothing will discourage a buyer so quickly as slow, noisy and inadequate transportation from floor to floor.

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No matter how efficient and modern looking such equipment as elevators appeared when they were installed, time will render them antiquated. The manufacturers of these appliances must progress; they must make each suceeding model better than the one preceding; they must provide more comfort and convenience, because progressive American thought demands improvement. The public expects less crowding, fewer waits and more pleasant conditions generally. I am discussing elevators in particular for the very good reason that I am more familiar with that part of a building's equipment than with any other.

But the principle is the same; the tools with which we do business must be kept efficient and up-to-date. Competitors are springing up everywhere; new buildings are going up and in them are being installed all the newest and most efficient tools available. The merchant or building owner who fails to recognize such progressive competition is lost.

But there is one phase of obsolescence insurance which I feel sure has not received the attention it merits.

It is obvious that without any reserve for repairs or replacements, a property and its equipment will rapidly deteriorate and its earning power decrease certainly and surely as the years pass. It is apparent also that provision for a reserve fund sufficient merely to keep equipment in repair and up to original standard, does no more than maintain an exact status quo. By this policy there is neither deterioration nor improvement. The elevator, for instance, will be maintained as exactly the same elevator that it was when installed. If nothing further is done, within five years, or ten years, that elevator while as good as new, is nevertheless antiquated. This policy is not obsolescence insurance in its fullest meaning.

What I have in mind and what I should like to impress upon my readers is that genuine, one hundred percent obsolescence insurance provides not only for maintenance but for modernization as well. It entails the adoption and installation of any new device which the manufacturer may have to offer as the years come and go; it means meeting the growing demands on the part of the public for every new convenience and comfort which inventive genius has to offer.

The result of such a policy? Instead of a curve of value and efficiency turning downward, as under the first policy, or remaining at the same level as with the second, the curve turns upward with each succeeding year.

There is really no such thing as fatality in building investments; they can be made permanent and profitable by full coverage in obsolescence insurance.

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SMALL HOUSE OF TOMORROW

Small homes are as unscientific as they were a century ago, according to Eli Jacques Kahn, supervising architect for the Chicago Worlds Fair, in a speech before the Small House Forum in New York City. "The design of the house," Mr. Kahn said, "will attempt to produce beauty by the only means that beauty can develop — honest expression of the materials used, giving full consideration to the individual's resistance to standardization. There will develop an educational program to show that fakes are abominable, whatever the materials may be." Following is a summary of Mr. Kahn's talk:

It has been interesting to study the development of the steel house, as well as the house in which steel was used as an important factor, and to find that up to this moment the results have not been particularly conductive to enthusiasm.

One has to consider the iron house built in Tipton, England, and over a hundred years old. There is a great succession of buildings in Germany, France and England that show every conceivable variety of design; steel frame walls of concrete, steel, copper, every possibility of ingenuity in the arrangement of the frame and too much effort in so-called architectural finish.

Must one conclude from the record that steel, used one way or the other, is not the reasonable mater-

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ial, or is there a fundamental difficulty that must be solved?

When things are running smoothly, when costs are not so vitally important as they now are, there is little occasion to search for basic facts. We are aware today of a great shrinkage in normal building, with the obvious situation remaining that people are living in houses, and will continue to live in them. There will be the annual loss by fire, due mainly to combustible construction; there will be obsolescence which presents no actual figure.

One knows that 80% of the public has an income of less than $50 per week, per family, and that their protection is particularly important in days of stress. One has therefore a picture of a normal demand for shelter of the great bulk of the population, and statistics are available to show that, in spite of all other factors, it is this great group that is in need of housing and is able to pay in proportion to its income.

If any discussion dismisses the relation of the individual to the community, without full analysis, the results will be superficial. The steel house, or any other house, is a commodity that requires a purchaser. Today, the problem is not one of design as it pertains to purely aesthetic consideration, but a realization, following the recognition of the demand, as to the difficulties that beset us.

Financing and promoting are two of the heavy burdens the house carries. One finds the facts

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in the "Primer of Housing" by A. C. Holden. It appears that 21.5% represent land and improvements; 27% financing and promotors; the 51.5% accounting for materials, labor, etc. If a great reduction in an insignificant proportion of the total by mass production, let us say, is possible, the result will still look very much like the original schedule of cost.

What is the answer?

One knows that under our present construction system there is an enormous amount of waste in material, as well as labor. Much of the work on the job is craftsmanship, pure and simple. If this were to guarantee better work, an argument might be reasonable, but the reverse is the case. Framework, casing, trim, floors, the entire building, is a series of individual efforts; when finally the plasterer arrives, one finds archeology rampant. We are still bringing quantities of water into the house, letting it evaporate, depending on the weather, to the detriment of materials subject to shrinking and warping. We put endless coats of paint on plaster and wood. In short, with the exception of the improved mechanical features of the house, we are about where we were a century ago. In the individual high priced house gadgets and decorative furbelows are entertaining and expensive; in the low priced house they are ruinous.

Can steel remedy the situation?

From a fire protection angle it is obvious that non-combustible material is important. It is clear that the various steel frames now proposed are in most cases compromises in the substitution of steel for wood, using more or less the same principle of framing. The extra cost, plus the ease of handling wood, puts the steel frame at a disadvantage. The steel wall and partition is another possibility and you will hear later of some of the experiments. Where standardization of certain features of the house is practical, there is every reason to believe

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that progress may develop.

Perhaps an interesting way to summarize the potentialities of steel might be to picture the future house. Whether one will be happier in a large apartment scheme offering the privileges of playgrounds, central heating, community amusements, etc., or whether the peace of the individual house with sufficient land to warrant privacy, is preferable, is a question.

The determination as to how people should live and would like to live, is an involved matter. The vital thing is the placing of an individual in an atmosphere that helps him respect himself; gives his children air, opportunity for recreation, education.

Assuming this situation determined, one faces the particular problem. It is evident that we still design apartments or houses in manner of our ancestors; omitting the charm of age, the mellowed quality of handicraft, we produce microscopic dining rooms, dinettes, kitchenettes, bedettes, what have you! Space is cut down because of cost, but the number of rooms is inviolate.

If one could absorb some of the principles advocated in the so-called modern architecture of Europe, we might find that the elimination of useless corridors, insignificant rooms into livable spaces might be highly practical.

The new school very intelligently discusses space, shelter, in just those terms, there are still too many useless survivals of traditional nooks and corners; the plan will eventually find where the emphasis should be put. Built-in furniture for example, or the principle of the Murphy bed, may develop ingenious arrangements for dining spaces to be clear of the room when it is required for other purposes. Steel, because of the economy of construction and mechanical possibilities, would seem to be the logical material.

The new house will have determined the virtues of certain practical elements, and with this in-

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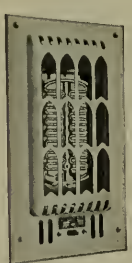

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formation in hand the designer will have free scope to make the house as interesting as he chooses. By this, I take it, it is not implied that decorative furbelows will arise, but solutions searching to find the most comfortable and workable arrangement for beautiful living. Beauty will evolve from clear thinking, more than from adroit decoration.

The construction of the future house may be in the great variety of scheme of steel frames with wall construction of masonry, pre-cast walls, steel, etc. There will arise houses of steel sheets, filled with various materials acting as insulators and contributing to the bearing strength of these walls. What one will watch for is a system that will permit of rapid construction, with the least complication. One will be cautious of the completely standardized factory-built house where the individual is planted in one of a series of cells. Human beings are not designed to live happily in them. One will be skeptical of the steel house trying to look like wood or stone or brick; the honest solution will be self-evident. Whether a steel wall can be evolved that will be rustless, agreeable, pleasant to live with, remains to be seen.

Basically, the house of tomorrow will demand in its solution an answer, in the first instance, of the larger social problems—call it City Planning, community living, or what you will. There will be a determination of how the house will be paid for, sound principles of financing, mortgages, etc., being studied. The plan will be scrutinized for obsolete principles that make for unnecessary cost at the sacrifice of better living conditions. The design of the house will attempt to produce beauty by the only means that beauty can develop — honest expression of the materials used, giving full consideration to the individual's resistance to standardization. There will develop an educational program to show that fakes are abominable, whatever their materials may be.

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CONTRACTORS LIABILITY

Because of its possible far-reaching application, rehearing of a case involving the liability of owner and contractor in a damage suit, is sought by the Industrial Association of San Francisco and nine building craft organizations of the Bay City. Application for a rehearing was filed May 17, the claim being set up that the ruling is so broad in its character that it will be practically impossible for any contractor to adequately protect himself against the liabilities imposed.

In the case at issue, Katz vs. Helbing, an award of $30,000 was made to a street car passenger who lost an eye because he was hit by a lump of lime picked up out of a mortar box placed on the sidewalk in front of a building and thrown by boys playing in the street. The court suggested possible ways of avoiding liability, such as making materials inaccessible, placing of warning signs or stationing of watchmen at the building. As interpreted by some attorneys the contractor's liability extends to all other materials which might be used as missiles as well as to lime. In a statement issued by the Industrial Association through Albert E. Boynton, managing director, the case is summarized as follows:

"In the erection of a building in San Francisco the owner of the building, in this case the builder and a subcontractor, made joint use of a mortar box placed on the sidewalk in front of the building for the purpose of holding caustic lime. On several occasions after working hours, boys playing in

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the neighborhood engaged in throwing this lime, and on one occasion some of this lime so thrown struck a street car passenger in the eye, causing a severe burn and the ultimate loss of the eye.

"The injured party sued the owner and contractor. The case went to the District Court of Appeals once and the Supreme Court of California twice. It was decided by the Supreme Court that the owner and the contractor were liable to the street car passenger in the sum of $30,000, the amount of damages awarded in the trial court. The liability was placed upon the ground that a reasonably prudent person should have foreseen that injury would probably result from leaving this dangerous substance in a place accessible to children, and that, therefore, the defendants — the owner and the contractor — were liable for not anticipating the consequences."

The organizations joining the Industrial Association in the request for a rehearing by the Supreme Court are: General Contractors of San Francisco, Inc., The Builders' Exchange of San Francisco, Sheet Metal Contractors Association of San Francisco, Master Painters and Decorators Association of San Francisco, Glass Jobbers Association of the Bay Counties, Steel Erectors Consolidated, Ltd., Home Builders' Association of San Francisco, and Master Plasterers' Association of San Francisco.

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AFTER enumerating facts upon facts — incontrovertible, convincing and eloquent—proving America's superiority in bank deposits, savings, stock ownership, insurance, national wealth, automobile ownership, home ownership, etc., *Colliers* for July 9th under the caption "Count Your Change", calls attention to the fact that "America has always recovered from periods of depression and pressed forward to new heights of prosperity," and concludes by pointing out that:

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Currency in circulation aggregates $5,464,000,000, or $700,000,000 more than in the boom.

A recent offering $450,000,000 of U. S. Treasury securities elicited subscriptions totaling $4,196,296,700—more than nine times the amount offered.

Last year $16,500,000,000 worth of new life insurance was written.

Total insurance now carried is estimated at $109,000,000,000, or not far short of $1,000 for every man, woman and child in the United States.

Such safeguard, such security is enjoyed by the people of no other nation in the world.

Our total national wealth, estimated at $329,700,000,000, is greater than that of a dozen Continental European countries combined.

The income of the American people comfortably exceeds $1,000,000,000 a week.

The per capita income here is far greater than in any other land.

There are still six or seven persons gainfully employed for every person idle.

No fewer than 25,800,000 automobiles are owned by Americans—almost one for every family.

This total is almost three times the number owned by all the rest of the world.

Americans possess far more telephones (19,500,000) than all other countries put together.

America has more home owners than any other nation.

A recent survey of 29 typical small towns revealed that 71 per cent of the inhabitants owned their homes, that 88 per cent had electric light, 72 per cent had baths, 51 per cent had electric washers, 55 per cent had radios, 41 per cent had vacuum cleaners.

There are more families in America than in any other land that can afford to and do send their children to high school and college.

Expansion in airplane travel—the most costly of all common forms of overland transportation — has been greater here than abroad during recent times.

The theater of the masses, the movie, still attracts a weekly average attendance of 75,000,000.

Our so-called national "luxury" bill is still away up in the billions a year.

It took a billion and a quarter pounds of candy to satisfy our sweet tooth in 1931—no decrease from the 1929 total.

The percentage of our agricultural population who, despite deflation, are acquiring domestic comforts, conveniences, labor-saving devices, improved machinery, the use of better roads, is constantly increasing.

Today more than 700,000 farms are electrified, representing an increase of 400 per cent in eight years, and the total is being swelled rapidly.

In industrial communities hard manual toil is being steadily abolished by the introduction of machinery. Each American worker now has at his command five horse-power, a record not even remotely approached outside our boundaries.

The average working-day a generation ago was ten to twelve hours. The standard in this generation is eight hours, with the trend running towards a still shorter work-day.

The work-week used to consist of six (even seven) days. Now it is five and one half days with the five-day week coming into vogue.

THE American Society for Testing Materials' Committee C-1 on Cement has been for some time investigating the effects of hot cement on concrete. Reports of tests by various laboratories and field investigations indicate that, contrary to general belief, hot cement does not affect the strength, durability or appearance of the finished concrete.

Cement is sometimes delivered on the job so hot that it is difficult to handle, burning the hands of the workmen. This heat is not the result of any chemical reaction in the cement but is due either to the use of hot clinker at the mill or is caused by the frictional heat created in grinding.

The controlling factor in the effect of heat on the finished product is the temperature of the concrete itself, and as the cement constitutes such a small percentage of the mix as a whole it can ordinarily be disregarded as a contributing temperature element.

⁂ ⁂ ⁂

THE STEADY SUBSCRIBER

How dear to our heart is the steady subscriber,
Who pays in advance at the birth of each year—
Who lays down the money, and does it right gladly,
And casts 'round the office a halo of cheer.
He never says "Stop it; I cannot afford it;
I'm getting more papers than now I can read;"
But does say "Send it; my help all like it;
In fact, we all think it an aid and a need."
How welcome his check when it reaches our sanctum,
How it makes our pulse throb!
How it makes our hearts dance!!
We outwardly thank him; we inwardly bless him—
The steady subscriber who pays in advance.

(Anonymous.)

⁂ ⁂ ⁂

TWENTY-EIGHT thousand pieces of wood, ranging in size from massive columns to hand-carved bits a few inches long, are being fitted together like the parts of some intricate Chinese puzzle this summer to reproduce the Golden Pavilion of Jehol, famous Oriental Lama temple on the grounds of A Century of Progress—Chicago's 1933 World's Fair. The temple was brought from China for Vincent Bendix of Chicago by Dr. Sven Hodin, famous Swedish explorer. The original was built by the Manchu emperors in 1767. It required 173 packing cases to transport the various parts. A Chinese architectural student is assisting the American contractor in assembling the temple. The pavilion will be opened to visitors on August 1. It will be a gleaming creation in red lacquer and gold and will house a priceless collection of Buddhist treasures.

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Next Month

RECENT WORK OF EDWIN LEWIS SNYDER OF BERKELEY, featuring the ALPHA DELTA PI SORORITY HOUSE, BERKELEY, and the unusual HOME OF GEORGE FRIEND.

In the same issue Mr. Snyder will have an interesting article describing a six weeks sketching trip on the Island of Mallorca (illustrated with sketches by the author.)

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Photo by Padilla Studios

TOWER OF MEMORIAL TERRACE MAUSOLEUM, FOREST LAWN MEMORIAL PARK, GLENDALE, CALIFORNIA
FREDERICK A. HANSON, ARCHITECTURAL SUPERVISOR
D. C. ALLISON, CONSULTING ARCHITECT

THE
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MEMORIAL TERRACE MAUSOLEUM, GLENDALE, CALIFORNIA

by
FREDERICK A. HANSON

THE recent completion and dedication of Memorial Terrace of the mausoleum-columbarium at Forest Lawn Memorial Park, Glendale, California, is a major step in the fulfillment of a plan of many years standing. This mausoleum, like every other building, great or small, fine or otherwise, is the result of prior thought and studious planning. Like every other building, it had, before construction and physical embodiment, an earlier conception, development and growth in the minds of those whose imagination and will brought it into being. However, because of the long and careful planning which preceded, a greater measure of success has been achieved than might otherwise have been possible.

The plan which has governed Forest Lawn Memorial Park is inscribed on the great tablet which stands near the entrance to Memorial Terrace. It is known as "The Builder's Creed", and it is a declaration of the faith and purpose which has steadily controlled and actuated every development:

"I believe in a happy Eternal Life. I believe those of us left behind should be glad in the certain belief that those gone before have entered into that happier Life. . . . I shall try to build at Forest Lawn a great park, devoid of misshapen monuments and other customary signs of earthly Death, but filled with towering trees, sweeping lawns, splashing fountains, singing birds, beautiful statuary, cheerful flowers, noble memorial architecture, with interiors full of light and color. . . . a place where lovers new and old shall love to stroll . . . . a place where artists study and sketch; where school teachers bring happy children to see the things they read of in books; where little churches invite . . . . where memorialization of loved ones in sculptured marble and pictorial glass shall be encouraged but controlled by acknowledged artists; a place where the sorrowing will be soothed and strengthened. . . . . This is the Builder's Dream; this is the Builder's Creed."

For fifteen years Forest Lawn Memorial Park has thus been dedicated to the ideal of beauty, both of nature and of man, and during that entire time its steady development and growth have borne con-

Photo by Padilla Studios

MEMORIAL TERRACE MAUSOLEUM-COLUMBARIUM,
GLENDALE, CALIFORNIA

FREDERICK A. HANSON, ARCHITECTURAL SUPERVISOR
D. C. ALLISON, CONSULTING ARCHITECT

vincing testimony to the soundness of the insight and wisdom which made beauty the basis of its appeal. Indeed, it should be gratifying and encouraging to the architectural profession, as the custodians of beauty in buildings, to know of the generous, sympathetic response with which the public has met this appeal.

Memorial Terrace is but a section or level of the mausoleum which it is expected will require enlargement from time to time in the future. Commenced 15 years ago at the foot of a high hill rising to the north, the first sections consisted of several terraces which followed the ascending slope of the hill, offsetting widely at their respective levels. This original work was built of reinforced concrete. When the decision was reached that Memorial Terrace should be constructed and that the size of the existing building should be doubled, it became necessary to determine upon the character of exterior finish for the entire building, including the earlier units. Exposed concrete had not been considered at the time of the former work but its architectural qualities had been demonstrated so often in recent years that however viewed it appeared to be the proper material to employ and therefore it was selected. Over the earlier units a 5-inch monolithic veneer was applied, of the same architectural character as the new work.

It has been stated that a firm belief in the responsiveness of the public to the appeal of beauty has inspired and ruled all work at Forest Lawn. In the construction of Memorial Terrace this desire to achieve beauty of a serene and noble nature, in keeping with the purpose and character of the building was paramount. It is for this reason that in the richness and variety of its marble interiors, in the beauty of its stained glass, and in the excellence of its statuary, it is truly exceptional.

The architectural style of the building is an adaptation of Italian Romanesque. The natural color of the concrete obtained with the cement used was not in this case displeasing, but on completion the building was given a wash and color coat which imparted a slightly cream tone to the light grey of the concrete. Probably a certain waterproofing value also attaches to this color cost but we primarily sought our waterproofing in the concrete itself, using a mix of 1-2½-3½ parts by volume and of such consistency that it could, by reasonable care and attention and not undue effort, be properly placed in the forms without segregation or honeycombing. A 2% admixture of talc was also used. Having made a concrete which could be handled and placed properly, we were at further pains to see that it was so handled and placed and while these efforts were not 100% successful, they comfortably approached that figure. Pours 18 to 20 feet in heighth were made in one operation and in the case of the Builder's Creed tablet, the heighth, or depth, of concrete placed in the single operation was 29 feet. A good deal of the trouble that comes with concrete seemingly results from a strange faith that an oft-repeated advertising slogan can itself accomplish miracles regardless of what haphazard methods prevail in proportioning, mixing and placing. Such a faith does apparently exist for otherwise the irresponsibility and unconcern regarding much building concrete is inexplicable. Concrete is permanent enough if it is given a chance, but it requires a certain amount of human cooperation in its efforts at permanency if they are to prove successful. Our formwork was given the care which is naturally required for exposed concrete surfaces, either exterior or interior. For the exterior we used 6 inch boards of clear stock, with unplaned sides against the concrete. The color coat previously referred to did not affect the form-marked, wood grained textures more than slightly. By terminating the successive pours or lifts either at the horizontal channels or at form lines and by carefully cleaning out the joints before the pouring of fresh concrete was begun, the pour plan marks were controlled and were left entirely inconspicuous.

The perpetual care and upkeep which

Photo by Pratt and Baker

MEMORIAL TERRACE MAUSOLEUM, GLENDALE, CALIFORNIA

FREDERICK A. HANSON, ARCHITECTURAL SUPERVISOR,
FOREST LAWN MEMORIAL PARK

D. C. ALLISON, CONSULTING ARCHITECT

are pledged and assured to all purchasers made the problem of sound and enduring construction a matter of particular importance here and every effort was made to build substantially and well. Moreover, we have sought to create in our work the appearance of strength and permanence, to which end the monolithic character of the concrete is well suited. The absence of joints and the unity of the entire structure gives an impression of solidity and endurance which it would be difficult to obtain otherwise. The crypts were constructed of reinforced concrete, and with the exception of certain electrically welded steel trusses and columns, the entire frame is of concrete. The versatility of this material of which the structural uses so freely blend into the architectural is admirable. In the interior we used it freely in panels and pilasters, in molded ornament and coffered ceilings, staining and coloring it to desired shade and tone. So treated, its appearance in combination with even the richest marbles, is pleasing, harmonious and dignified.

Over eighty different kinds of marble from all parts of the world were employed in the finish and ornamentation of the various rooms and private mausoleums. Their wonderful range of color and pattern and veining, the smooth luster of their highly polished surfaces, their richness are outstanding in their beauty.

The plan of the building shows that approach is made from the forecourt to the central architectural feature, The Memorial Court of Honor, through Cathedral Corridor, the first section of which is the high ceilinged hall at the entrance, while the second section, lying at a 45° angle with the first, has a lower vaulted ceiling.

It was contemplated from the outset that the interior units of the building should serve as a setting for certain monumental works of Art, and to this purpose the plan adopted was well suited. In the entrance hall stands the heroic statue of Moses, an exact replica of Michelangelo's masterpiece; the second section of Cathedral Corridor serves as a vista for the great symbolic figure, "In Memoria"; and again the view of Memorial Court of Honor is developed with sudden dramatic effect from the end of Cathedral Corridor.

Here at the end of Cathedral Corridor where one turns into Memorial Court of Honor, the attention is inevitably focussed on the great window at the opposite end of the room. And rightly so, for there confronting one is the "Last Supper", as that great master, Leonardo da Vinci, conceived it: Our Lord seated at the table in the center, while grouped on either hand are the twelve apostles, startled and aghast at his words that one among them would betray him. The lifelike reality of the scene, its tense drama, the color tones, the great size of the picture (15 feet by 30 feet) are truly impressive. This window is the result of six years' work by a woman, Signorina Rosa Caselli Moretti of Perugia, Italy, who is the lineal descendant of a family that for many centuries has worked in stained glass, passing the accumulated knowledge of the processes from one generation to another. Seven years ago she was commissioned by Mr. Hubert Eaton, Chairman of the Forest Lawn Board, to recreate in stained glass this great masterpiece, the original of which painted upon the walls of the convent of Santa Maria della Grazie in Milan, is slowly being destroyed by the ravages of time. The commanding interest of this magnificent window gives assurance that Signorina Moretti performed her task faithfully and well.

Other windows of stained glass, most of them in geometric mediaeval pattern, fill in the narrow Gothic-arched openings, while at the end opposite the "Last Supper" is a rose window of similar design. On this same axis and in the distant wall of the Hall of Memory another rose window sheds its light. What glorious, radiant, jewel-like things they are the whole day through! How impotent one feels to attempt to describe them. How impossible it is to tell with words the beauty of living, glowing light.

Here in the Memorial Court of Honor

CATHEDRAL COURT WALL, MAUSOLEUM, FOREST LAWN MEMORIAL PARK

"MOSES", ONLY EXACT REPRODUCTION OF MICHELANGELO'S GREATEST WORK

"LA PIETA", MICHELANGELO'S PORTRAYAL OF MARY HOLDING THE DEAD CHRIST

are grouped in one collection the majority of Michelangelo's greatest works. By arrangement with the Italian government and executed under the supervision of the Italian Ministry of Fine Arts, exact replicas in Carrara marble have been secured. "La Pieta", "The Madonna of Bruges", "The Medici Madonna" and those magnificent figures which grace the Medici Tombs, known as "Day and Night" and "Dawn and Twilight" are here assembled.

On the walls of the Hall of Memory are two quotations with which we will conclude. One, by Robert Bridges, is this: "Mankind's love of life apart from love of beauty is a tale of no count". The other, by Calvin Coolidge, reads: "If we could surround ourselves with forms of beauty, the evil things of life would tend to disappear and our moral standards would be raised. Through our contact with the beautiful we see more of the truth and are brought into closer contact with the infinite."

MARBLE PANEL WITH SCULPTURED BUST OF MICHELANGELO IN MEMORIAL COURT OF HONOR

BEAUTY AND DURABILITY SEEN IN FOREST LAWN MEMORIAL

by
DAVID C. ALLISON, A. I. A.

THE questions that puzzled the astrologers and wise men of Egypt six thousand years ago, as they gazed into the moon-lit skies above the Sahara, intrigue us equally today. Whence is creation? What are the unknown facts behind life? What after death? We today as always search to attach ourselves to a thing we call Eternity. We conceive it as the spiritual bulwark for mankind in a vast mystery of an unknown expanse of physical universe and a fathomless extent of time.

The religions of the East and West have evolved different concepts of death and immortality. Christianity has endowed it with hope, assigning to the soul preeminent concern in this life and everlasting existence hereafter. So deeply rooted is this belief amongst its followers that it is one of the guiding principles of our present civilization.

The great man of ancient times decreed that after death his remains should be preserved for eternity in a noble and dignified resting place. The pyramids, the tombs of Greece and Etruria, the solemn splendor of the mausoleums on the Appian Way, recall ancient symbolism concerning death. In all the manifold artistic expression of the Christian church these considerations, allegorically, have pre-occupied the minds of musicians, architects, sculptors and painters. They have expended their genius in the finest and most enduring mediums available. The funerary monuments of the Christian church—memorial chapels, tombs, sculpture — represent some of the great artistic masterpieces of all time.

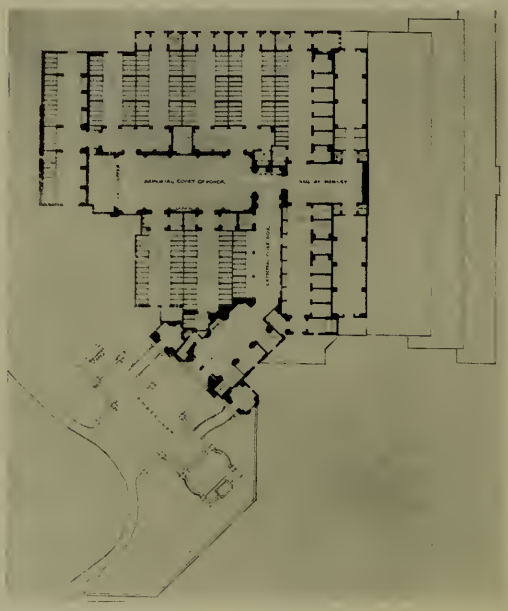
The objective of the Builder of Forest Lawn was to create a commemorative atmosphere, embracing a spirit of unafraid hope and faith, rather than one of gloom. The design was guided by a desire to mould the forms and masses of the building group to the rambling contours of a lovely, shaded hillside; the spirit of the whole to be dignified, sincere, enduring. The Builder selected for the walls of the structure what he believed to be strongest material known. They are built for the centuries to come. The integrity of the concrete planes voices a basic structural truth. The plasticity inherent in concrete has permitted free treatment in decorative forms, which have no rigid style vocabulary. Combining as it does in a unique way, plasticity and power, concrete places in the hands of the builder a medium of remarkable potential facility. It performs a manifold service, answers well the problems of construction, of function, peculiar to our present times. Skillfully treated it may possess a quiet, sincere beauty all its own.

Why not express this medium?

In surroundings intended to preserve noble ideals of beauty, love and truth it is altogether fitting to be thus architecturally honest.

Time and good taste will test the fundamental verities of this conception.

DETAIL, MEMORIAL TERRACE MAUSOLEUM,
GLENDALE, CALIFORNIA
FREDERICK A. HANSON, ARCHITECTURAL SUPERVISOR,
FOREST LAWN MEMORIAL PARK
D. C. ALLISON, CONSULTING ARCHITECT



PLAN, MEMORIAL TERRACE MAUSOLEUM, GLENDALE, CALIFORNIA

FREDERICK A. HANSON, ARCHITECTURAL SUPERVISOR, D. C. ALLISON, CONSULTING ARCHITECT

CATHEDRAL CORRIDOR, MEMORIAL TERRACE MAUSOLEUM, GLENDALE, CALIFORNIA

FREDERICK A. HANSON, ARCHITECTURAL SUPERVISOR, FOREST LAWN MEMORIAL PARK
D. C. ALLISON, CONSULTING ARCHITECT

CATHEDRAL CORRIDOR, MEMORIAL TERRACE MAUSOLEUM, GLENDALE, CALIFORNIA

The stained glass window at the end of the corridor is an exact replica of Leonardo da Vinci's "Last Supper," and was executed by Signorina Moretti

THE CATACOMBS OF CYPRESS LAWN, SAN FRANCISCO

B. J. S. CAHILL, ARCHITECT

MEMORIAL BUILDINGS

by
B. J. S. CAHILL, Architect

THE first cemetery around the Bay to acquire a community mausoleum was Evergreen, near Havenscourt on the crest of a ridge commanding, from the terrace, a superb view of the Bay and all Oakland. This building has recently changed ownership and in the near future will be considerably extended.

The Catacombs of Cypress Lawn were started with the rectangular central unit built and the base in granite already in place when the author was called on to design the Loggia. Manti limestone was used in this and in all subsequent cemetery structures. The building has been enlarged three times, twice on the north and once towards the south. The pictures reveal the variety of interior treatment.

Cremation has a greater vogue in San Francisco than in any other city. Witness the largest exclusive Columbariums ever built in the country: the Odd Fellows and the new Cypress Lawn.

Here the architect has no prototype, no precedent, no accumulated experience to guide him. The niche as a unit we have as a hold-over from ancient Rome. The familiar round headed opening in a massive wall, so resembling a dove cote that the Latin word for it, Columbarium, is still used indiscriminately for birds or urns alike.

It may interest the reader to know that the design of the building in Cypress Lawn Memorial Park was suggested to the writer when the late Mr. Noble, the founder of that Institution, asked him one day to design some sort of structure to house the ever growing flock of brown and white pigeons which was such an attractive feature of the grounds. In fact, the pigeons of Cypress Lawn became as famous locally, one might say, as the pigeons in the great Cortile of the British Museum in London or the grand Piazzo di San Marco in Venice. While thinking over the pigeon house problem the question came up as to the need also of a great Columbarium and it did not take long to conclude that if one word covered the two ideas, why should not one build-

COLUMBARIUM, ODD FELLOWS, SAN FRANCISCO
B. J. S. Cahill, Architect

OFFICE BUILDING, EVERGREEN CEMETERY, OAKLAND, CALIFORNIA
B. J. S. Cahill, Architect

ing do the same thing.

The four octagonal stone turrets, flanking the extended terrace wing, are in fact designed for the 2,000 odd pigeons to go and come to their roosts. These are built in two long narrow runways each side of the main entrance and over the small private rooms on the front line. These runways, with plate glass fronts, face in on to the terrace floor which is reached from the main Basilica.

Long after the stone contract was let but in deference to the wishes of lot owners at the rear, the height of this building was re-

THE TERRACE, EVERGREEN MAUSOLEUM, OAKLAND, CALIFORNIA
B. J. S. Cahill, Architect

LOGGIA, CATACOMBS OF CYPRESS LAWN, SAN FRANCISCO
B. J. S. Cahill, Architect

PRIVATE ROOM, CORRIDOR IV, THE CATACOMBS OF CYPRESS LAWN,
B. J. S. Cahill, Architect

duced about ten feet. This was taken out of the base under the main pseudo--Doric Order, which in consequence does not lift itself above the turrets as it was designed to do originally.

on a large level plain and needed to be set high above the ground, this effect was accomplished most economically by an additional floor, so that between the same roof and foundation a whole extra mausoleum

TERRACE CORRIDOR, COLUMBARIUM, CYPRESS LAWN, SAN FRANCISCO
B. J. S. Cahill, Architect

That conditions control the plan and also the design is well exemplified in the first unit of St. Mary's Mausoleum in Sacramento. The management being strictly ecclesiastical desired a church-like rather than a secular lay-out. The Medieval Architecture adopted on a cruciform plan repeats about all the features of that period. The Nave, Chancel and Aisles, the Clerestory windows above and the cloisters below are all here indicated and worked out with simple logic. Since the building stood

unit was interpolated. This procedure more than doubled the number of crypts obtained on the upper floor. The ends of the transepts are filled in with terra cotta, which can be broken away when the future extensions are in order, and the large art glass steel framed windows reset. Throughout the building all surfaces are finished directly on the concrete shell with no boxed-in or furred-out spaces anywhere whatsoever.

The Chapel in Diamond Head Memorial Park is part of the first unit to include

TERRACE CORRIDOR, COLUMBARIUM, CYPRESS LAWN, SAN FRANCISCO
B. J. S. Cahill, Architect

NORTH AISLE, THE CATACOMBS OF CYPRESS LAWN, SAN FRANCISCO
B. J. S. Cahill, Architect

THE NEW COLUMBARIUM, CYPRESS LAWN, SAN FRANCISCO
B. J. S. Cahill, Architect

THE NEW COLUMBARIUM, CYPRESS LAWN, SAN FRANCISCO
B. J. S. Cahill, Architect

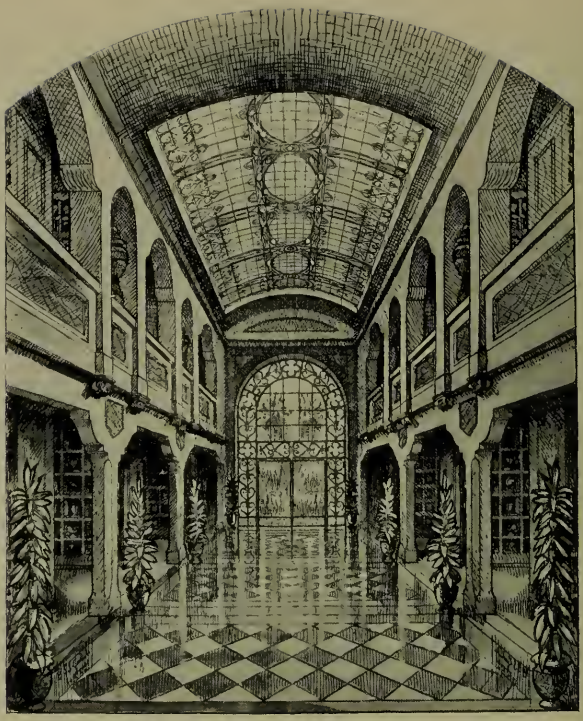
a crematory, provisional office and Lanai Columbarium. This Chapel will also serve, with its upper floor, as an additional columbarium with extension wings over the incineration service quarters at the rear.

The large all Doric marble family vault, here shown is an innovation in construction. The reinforced concrete shell of the Cella and overhanging roof are to be built first and the forms then stripped before any marble is delivered on the site. At this stage the structure will look like a cottage on a scow or the familiar pictures of Noah's Ark. The outer peristyle, in direct opposition to the old Greek method, will then be set up after the marble steps and stylobate are laid over the concrete ones. The columns, twenty of them, will be monoliths set in afterwards independently of the roof. The facing will be of two inch ashlar excepting the jams, heads, sills and steps where the stock will be solid. Great pains have been taken to select a marble at once dense and white and the final choice was Imperial Danby Vermont of which the entire surface will be built from the bottom step of the podium to the topmost ridge of the roof.

ST. MARY'S MAUSOLEUM, SACRAMENTO
B. J. S. Cahill, Architect

CHAPEL OF COLUMBARIUM,
HONOLULU, T. H.

B. J. S. Cahill, Architect



PRIVATE MAUSOLEUM,
CYPRESS LAWN,
SAN FRANCISCO

B. J. S. Cahill, Architect

THE ENGINEER'S AESTHETIC

PART II

by
WM. L. WOOLLETT, Architect

ILLUSTRATING the popular statement of what architecture is supposed to be, allow me to quote Le Corbusier once more: "Profile and contour are the touchstone of the architect." Meaning what—that profile and contour do express the structural aesthetic phase of the member affected? I believe this to be unutterably true, but Le Corbusier says: "Profile and contour are a pure creation of the mind. They call for the plastic artist." By what means — through what method of thought shall profile and contour come into being—as a pure creation of the mind?" A created thing without law of being? Is this architecture? What then is the law of conformity as between form and substance, form and color, form and function, and the permutations and combinations of these correspondences?

What law or order does Le Corbusier here designate and define? What is the relation of the profile and contour to color and texture of material, to intrinsic stability and strength of material, i.e., the functional member affected?

I would not emphasize the importance of a mere definition, for I feel in Le Corbusier's book a volcanic power and scientific perception. I seem however, to sense an omission to value sufficiently the craft of building as a definite talisman of the abstract message. I suggest that the trend of modern appreciation of architecture does not concern itself enough with the thought that profile and contour for architecture should be profoundly cumulative plan, as of other values. Profile and contour are expressive of constructive elements in simpler forms as for instance in a spoon or a pair of tongs.

The problem is how to state the law of contour and profile in architecture. A building presents the necessity to follow this principle of correspondence and evolution so plainly evident in the spoon or pair of tongs. To merely impose plastic forms on an otherwise purely practical structure is to foreswear the first principle of creation i.e., that form follows function. How far does form follow function? I believe to the nth power!

A rigid discipline and regimentation of the architect's aesthetic is now necessary to the end that an orderly statement of his specific problem may be enunciated. The diletante aesthetics of art for art's sake must give way to a scientific attitude. The attitude toward art which Rembrandt is reputed to have maintained is at all times appropriate. The essence of this attitude is illustrated today in the engineer's aesthetic on which the "moderne" architect and artist is leading for support. This engineer's aesthetic must finally be recognized by architects, for there is no break in the continuity of this so-called engineer's aesthetic, from the simplest expression of the plan to the most elaborate flowering of ornament and detail. The scope of this homogeneous aesthetic is limited only by the culture of the creator.

Tradition and history left out of this creation of the "moderne" engineer, we have something quite new. This new thing however, in the hands of the architect is apt to be a mere caricature of the engi-

neer's aesthetic and that is just what most of the so-called "moderne" architecture is. The architect having only an emperical knowledge of the engineer's aesthetic designs something which resembles some engineer's creation. The crude, bald, ungainly thing, calculated mathematical formula is supposed to germinate, is reformed in plastic material without the authority of sincere construction. Thus we see the facades of modern buildings which resemble steam boats or caissons; houses which make one think of packing boxes and store fronts jumbled together and occasionally something like an enlarged tobacco pouch or the section of a timpkin bearing, pops up. These new forms stare at us like ugly gnomes. The "moderne" architect has just not digested all the food he takes. The flair of the "moderne" artist and architect for the engineer's aesthetic is logical and enlivening, but for the moment we are all too much concentrated on the objective phase of our new plaything and know nothing of the real engineer's aesthetic. In the furnace heat of this discovery we are apt to forget that all of the picturesque and seemingly irregular and unsymmetrical forms of nature like the engineer's aesthetic are built out of mathematical formulæ. We frown over the softness of natural things and go in for the hard and uncompromising forms familiar in engineering construction, thinking that we are following the engineer's aesthetic. The engineer's aesthetic includes nature and it is not necessary to convert our cities into parking for packing boxes, our monuments into mammoth ice cream freezers, our churches into subway tunnels. And we further forget that each completed form in nature is perfect in the sense of sequence and collaboration between the parts. Nature does not put butterfly wings on the rhinoceros or too delicate a sense of smell in the pole cat. Balance, natural growth, not eccentricity and parasitical applique—is the law of nature and the law of aesthetics. We who are appropriating the engineer's aesthetic not being engineers in training or in spirit, fall as all amateurs fall—by the wayside incompetent, because unknowing. We trick out our plastic forms in brave attempt, but it is useless without the engineer's co-efficient. I have seen a lath and plaster structure, carrying on a wood construction, cement stone or terra cotta, this is not a crime it is merely indecent.

The exponent of a new cult like Frank Lloyd Wright, the cleverness of which is paramount, builds just as Le Corbusier advises, "free of all constraint". But how? One certainly does not feel in the presence of his buildings conscious of an engineer's aesthetic. A sincere building always carries the ear marks of construction. One can really not imagine how Frank Lloyd Wright's house is built. One does not like to question, what it is that holds up those overhanging thin slabs enameled with blocks of concrete of Mayan extraction. Such a question savors of ignorance and no one wants to seem ignorant. We rap on the inside walls—they sound hollow, like plaster on metal lath—I wonder? If the construction is good the forms which Wright uses dissipate the idea of permanence because any engineer knows that he has drawn his abstract values through an Oriental's sense of decoration rather than from the slide rule. The presence of unreal values follows on through the design. There is no where the peace which comes from naiveity of utter frankness. And yet I presume that Mr. Wright would claim all the virtues of sincerity and mean it. Like Corbusier the contribution of Frank Lloyd Wright to the world of thought in architecture amounts to a discovery that the engineer's aesthetic exists, but is as yet uncaught and untamed.

The cracks in the plaster strangely castigate the age-old Mayan temple forms. Great beams and lofty ceilings often appear in the modern home, the proportions of which are balanced as though for some ancient Hun or Sarasenic horde. These spaces give out the idea of unreality, a stage set because we know that the abstract values of permanence and stability which is implied is not economically possible and hence the inference that a sham construction exists. The saddle bags and tent

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It seems to me that art if anything at all is an appeal to the sub-conscious. The reservoir of the psychic man, his previous contact with form is our starting point, the bona-fide reason for an abstraction in architecture. What does form in the abstract have to do with the sub-conscious? To look into the face of a saint or a sinner will provide an answer. What part does classic architecture play in our understanding and appreciation of forms used in the new engineer's aesthetic? Must "moderne" architecture be without the touchstone of past performance? Can any bit of music or literature be even faintly powerful unless it gathers up into itself all that has been done in the past with the plus of modern view point? Is a poem anything without the age old golden value of words?

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The function of construction is not therefore, only use and utility, but a vehicle for the abstract and the sub-conscious values. These values are carried to an ever greater height through the power over the plastic sense. This principle of cohesion between the abstract, the sub-conscious and the engineering aesthetic carries to the smallest and most inconsequential detail. The tree —the trunk, the limb, the branch, the twig, the leaf, the fibre, the substance, the texture, the color, the function, all plastic in the hands of the creative mind. Shall we call that creative mind engineer or architect?

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DOOR FROM VISITORS' GALLERY TO STUDIO C, NATIONAL BROADCASTING COMPANY, SAN FRANCISCO

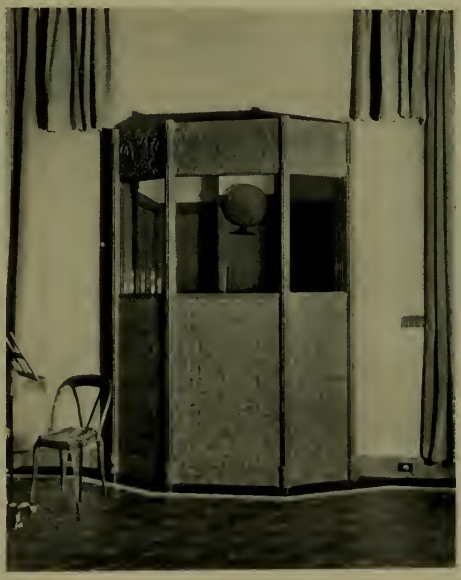
WILLIAM CLEMENT AMBROSE, ARCHITECT

DESIGN FOR A BROADCASTING STUDIO

by
WM. CLEMENT AMBROSE
Architect

As modern as the microphones which it serves, is the new studio of the National Broadcasting Company, San Francisco. This splendid room was designed with the idea in mind that the artist must perform in a harmonious and stimulating environment in order to give his best to his unseen audience. To that end, a studio has been created which is alive with color, rich with the hanging folds of fine fabric, and provided with sharp accents by the recurring use of polished brass in its natural color.

The walls of the studio are divided by vertical pilaster-like projections, fluted in a modern manner, but with a classical rhythm in their spacing. On the wall spaces between the projections are rich red, orange, green, and gray colored draperies, arranged to move on concealed tracks, so that any desired degree of sound "liveness" may be obtained.



PLANT MONITOR BOOTH, STUDIO C,
NATIONAL BROADCASTING COMPANY
William C. Ambrose, Architect

The colors of the draperies are repeated in the modeled frieze and ornament band at the ceiling. A pale Chinese-blue background in the ornament affords a complement to the brass of the special lighting fixtures, and to the bands of brass which bind the edges of the stepped ceiling planes.

At the openings to the visitors' gallery and green room, and at the ventilating openings, there are iron grilles done in a fresh modern spirit. The minor doors are of leather, studded in patterns with brass nails.

The control room projects as a bay into one end of the studio, a feature unique in modern studio design. The shape chosen allows perfect observation of all parts of the studio by the control operator. The material of the projecting bay is a combination of marble, iron and glass.

Where not covered with rugs, the studio floor shows a covering of linoleum inlaid in a modern pattern.

GENERAL VIEW OF STUDIO C, NATIONAL BROADCASTING COMPANY, SAN FRANCISCO

WILLIAM CLEMENT AMBROSE, ARCHITECT

TILED ENTRANCE TO THE ANCIENT KASBAH IN TANGIERS

A SKETCHING TRIP TO MOROCCO AND NORTH AFRICA

by
ALFRED C. WILLIAMS

IT is less than an hour by steamer from Algeciras in Spain to Ceuta in North Africa and only a bit further out the Strait to Tangiers, a potpourri of many creeds and many races. Across from this piled-up, dirty, pink and white town is Gibraltar, shiny and serene. The waters of the strait are turbulent and vibrant. Vibrant it seems with the excitement of numerous trails, many routes here joining and feeding into the Mediterranean, mother of sea-farers, enclosed by lands of great tradition, earliest culture and civilization.

Tangiers is a city, if you will, of many phases and many haunts. A teeming, clattering place, with eddying and squatting Arabs, French gendarmes, Spanish workmen, Italian fishermen, Portuguese moneychangers and tourists, mostly British and American. The Moorish quarters are of extreme interest and afford a real picture of the life of these descendants of another social order. The towers of their mosques rise here and there to catch the rays of the early sun, panels of tile all aglitter, bricks brown and warm against the blue skies. The streets wind and step up the hillside, overflowing with a hurrying, jostling crowd. To the European and the Westerner the lives of these natives seem pointless and unreal. Their diet consists almost entirely of unleavened bread and strong tea, sweet and scalding. They drink this

AN ARCADE OVER A STEPPED STREET, IN TANGIERS

minted beverage in glasses, adding to the difficulties of its consumption, but it is good once one has come to know it and the places afforded in which to quaff it are often so delightful, one comes away with impressions quite as strong as the tea and very much a part of it.

In Tangiers there is the great market square, the chicken marts, the shops, the street of the money-changers, the modern French section, the central square flanked by cafes and curio shops, the Moorish town, the tourist hotels, the seaport and the beach. Most beautiful of all is the great concha beach, with its lighthouse at one end, the boats and wharves at the other. The lighthouse whirls a beam of light across the bay at night well out and over the Straits of Gibraltar. In the moonlight, this bay is a silver sheet and its waters lap up on the sandy beach with a rhythmic swish and suction.

Tetuan, on the bus route from Ceuta to Tangiers, gives a more true picture of a typical Moorish city. It is set on the side of a rocky mound, the highway passing below between it and a great spur of the northern range of mountains, known as the Atlas Mountains, that rise to magnificent heights and give the country a dramatic, foreboding air from across the Mediterranean. The green and abundance of growth in many sections contrasts wonderfully with these brown, barren, rocky piles. All white and blue and pink, slumbering under the hot sun, pulsating under starlit

A SHOPPING SECTION IN BUSY, BUSTLING TANGIERS

TRAFFIC IS HEAVY, ENDLESS AND AIMLESS IN TETUAN'S CLUTTERED STREETS

STEP-BACKS AND STORE FRONTS IN TETUAN

nights, this town of the inland, guards jealously its shady patios, its fountains and pools, its cool gardens. The roofs are livable only at night. The natives move about during the day, the women swathed in white cloth with only their eyes and foreheads visible; the men in their turbans and the most diverse combination of Eastern and Western dress imaginable. Native pants and khaki army coats, European sox and Paris garters, proudly exhibited on bare, bowed legs, sandals or army shoes, fezes if not turbans, some in colorful robes, others in rags. The shop keepers slumber in the rear of their niche-like shops, their loaves of bread stacked like cards on the shop threshold.

What a hodge-podge of inconsistencies; a people resolute yet irresponsible, filled with despair yet clamorous. Beautiful is this picture yet squalid, fascinating yet disgusting, picturesque yet cruel, of an Eastern people in a Western world.

Photo by Boychuk

RESIDENCE OF DR. ROBERT F. BENNETT, PORTLAND, OREGON
Harold W. Doty, Architect

PLANS, RESIDENCE OF DR. ROBERT F. BENNETT, PORTLAND, OREGON
Harold W. Doty, Architect

LATH MARKS IN WALLS AND CEILINGS

UNSIGHTLY lath-marks, commonly seen on walls and ceilings and, until recently, as puzzling as mysterious fingerprints in a criminal case, have been explained at last. Dr. W. J. Hooper of Battle Creek College, in co-operation with the Wood Conversion Company, has just completed a series of interesting tests which not only show the cause of the marks but also point to a way of preventing them. Oddly enough, the remedy remains hidden in the walls, but it affects the visible areas of lath and plaster rooms.

The experiments, conducted on sample walls, showed that the marks were due, not to porosity of the plaster, to electrical phenomena, gravitational or other commonly mentioned causes, but to a difference in temperature of the surfaces involved and to a sort of "volley ball game" that goes on among the air molecules, played with the tiny dust particles that cause the marks.

Here is what happens, Dr. Hooper's tests revealed, to produce the unsightly marks that sometimes expose the anatomy of a wall or ceiling almost as clearly as would an X-ray photograph.

As air, carrying the dust particles, passes over the surfaces, it comes in contact with areas of different temperature. These differences are present because plaster and wood have different values as heat conductors, plaster being a better conductor than wood. Years ago, it was discovered that a hot body seemingly repels dust, whereas dust will deposit itself freely on a cold body.

That is what occurs on a wall or ceiling of plaster and lath, and Dr. Hooper's explanation is this: "The air molecules," he says, "are the players and are constantly striking the suspended dust particles which are driven about the atmosphere as a result of this bombardment in a sort of volley ball game. Next to a relatively warm wall surface, the players are very active and they play more energetically than the slow, sluggish players next to the cooler surfaces. One would naturally expect the more alert players to be the more efficient in keeping the ball off their court—and so they are!

"In this game of molecules, the volley ball dust particles most frequently lodge where the cooler and more inactive team is less effective in driving them back."

In conducting the tests, a portable section of a wood and plaster wall was constructed, the upper surface covered with wall paper. A smudge was produced by a smoking kerosene lamp. At first no lath marks appeared. Then the windows in the laboratory were opened so that a draft of cold air could circulate underneath the sample wall. The lath marks quickly formed. A result had been produced but its cause was still a mystery!

A draft of heated air was introduced instead of cold air. A remarkable change took place. The marks appeared but in a totally different position. The streaks of soot were deposited directly over the lath instead of between them as is the usual case in a dwelling. This pointed to the real cause of the mystery. Half the section was exposed to hot air and half to cold. The section exposed to the hot air was marked with streaks directly over the lath, but in the other half, the marks appeared between the lath.

The mystery was solved. Due to the principle that a warm body seemingly repels dust marks whereas a cool one at-

*Reprinted from *Scientific American*.

tracts the deposit of dust, the soot was deposited over the lath in the hot air section because the lath areas, being poor conductors of heat, remained cooler than the other areas. In the other case, the plaster between the lath was cooler and hence, was marked, because the lath areas, due to their relatively poor conductive quality, remained warmer.

Having thus solved the problem of the appearance of the marks, Dr. Hooper then sought a way to prevent them from forming. A sample wall, similar to that of a dwelling, was built, but with its inner space divided into two equal compartments. Into one of the divisions a one-inch layer of Balsam-Wool, wood fiber between asphalt-coated paper covers, was installed to form an insulating blanket. The other space was left empty. During the ensuing experiments, the air next to the clapboards on the outside of the wall was kept at a constant temperature of approximately zero degrees, Fahrenheit, while the soot-laden air within the smoke chamber next to the wall paper was kept at about 80 degrees, Fahrenheit.

It was interesting to observe that the section which was insulated with the Balsam-Wool was practically free from the lath marks, while the other, untreated, compartment was prominently figured with them. Lath marks, it was thus clearly demonstrated, indicate "thermal leaks." The heat passes out through those places most heavily covered with dust; in other words, they are the cold places, indicating a loss of heat from within.

"A dwelling in which lath marks make their appearance readily is one most likely to be poorly insulated," said Dr. Hooper. "This information should be of considerable value to anyone considering the building of a home with wood-lath and plaster walls."

DOORWAY TO PRIVATE MAUSOLEUM
B. J. S. Cahill, Architect

INDIA GOES MODERN

by
JOHN F. RYAN

IT is all very picturesque when North American suburbia goes Spanish Renaissance. And, appropriate or not, nobody minds very much when a glorified version of the Mexican adobe hut is built in, for example, Duluth. The means are at hand for adapting these exotic styles to local needs.

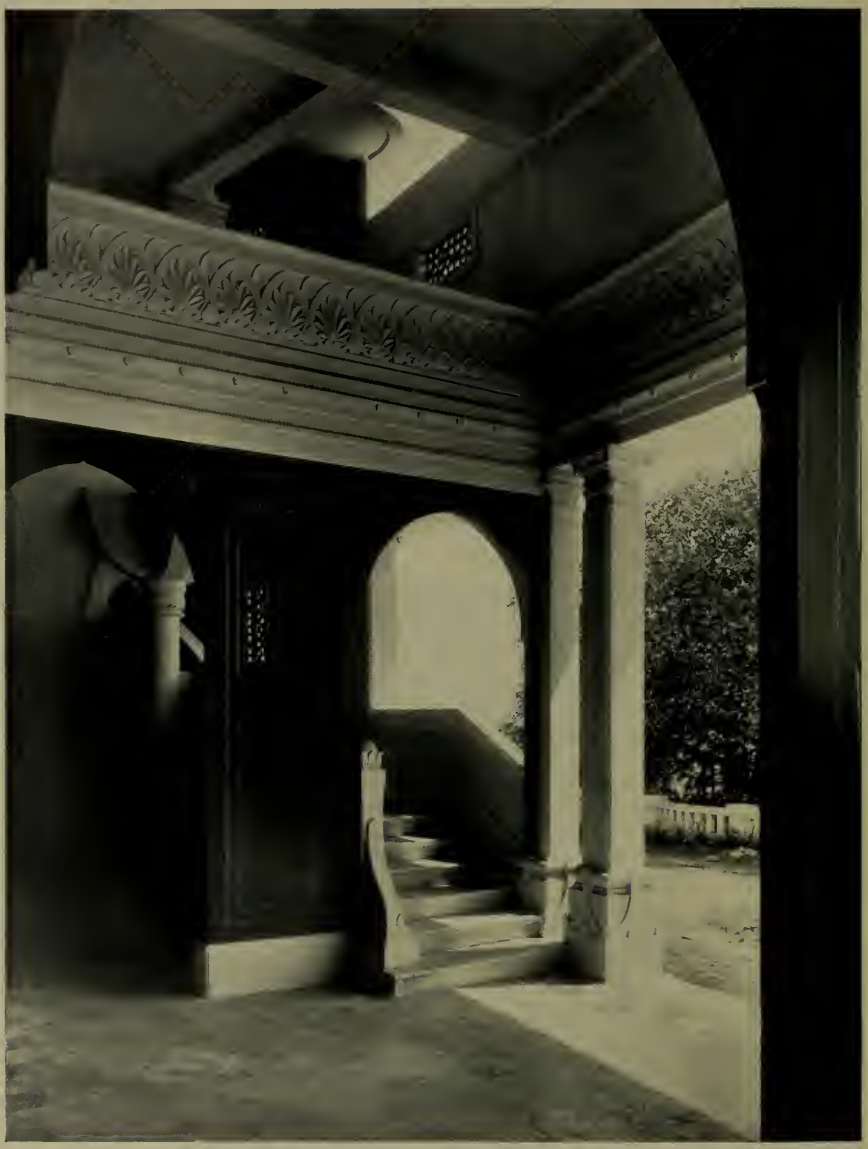
But in India, architecture must hew to the line. There architects are confronted by an inexorable climate. It would be practically impossible to build a conventional English cottage or a Dutch Colonial house in, say, Bombay. Apart from the inappropriateness of such designs, houses of that type would be utterly uncomfortable.

A CLOSE-UP OF THE "CHUJJAS", OR CORNICE, WHICH HELP TO MAKE LIFE MORE COMFORTABLE IN BOMBAY. THESE ARE CAST IN CONCRETE, WITH THE REST OF THE STRUCTURE

India was the birthplace of the bungalow—a form of dwelling contrived to afford the utmost of shade and ventilation. Other native structures sought the same ends.

It was natural that British colonization should have an influence on architecture, but conventional English and Indian forms and practices made a poor mixture. During recent years, however, there has been a definite tendency to combine Indian architectural ideas with "foreign" materials, with the objective of greater structural strength, sanitation and convenience.

Concrete, which has been used industrially and for public projects for some time in India, is being utilized extensively in new housing developments which are significant



MAIN STAIRCASE FROM ENTRANCE HALL, REMODELED PALACE OF THE LATE MAHARAJA SCINDIA, WORLI, BOMBAY

Note combination of wooden grills and screens with the concrete which is used decoratively as well as structurally

FROM CENTRAL TERRACE OF PALACE A MAGNIFICENT VIEW OVER THE SEA IS TO BE HAD

Note the characteristically Oriental forms worked out in concrete

REMODELED PALACE OF THE LATE MAHARAJA SCINDIA AT WORLI, BOMBAY

Note wide cornices or "Chujjas" which act as a permanent awning and sun shade

in that they give new expression to well established architectural traditions.

Among the most interesting new buildings, exemplifying this new school of Indian architecture, is the rebuilt and remodeled palace of the late Maharaja Scindia at Worli, Bombay.

The site of the building imposed obligations as well as opportunities on the builders. It is located on an elevation overlooking the sea at Worli and may be seen for a considerable distance, both from the water and from the main road to the north which passes nearby. A firm of English architects, Gregson, Batley and King, undertook the project. The old building was a fairly uninteresting bungalow, constructed in the conventional manner with open verandahs formed by a continuation of the main roof carried upon wooden posts and plates. The new building, although occupying the old site almost exactly, is totally different.

The main structure is two stories high, with a central terrace rising considerably higher, from which a magnificent view over land and sea is to be had.

The structure is reinforced concrete throughout, most of it cast in place. Some of the columns, however, were present and left hollow. When put in position, reinforcing steel and plastic concrete were placed in the cores. All caps and bases were cast with their ornamentation complete. The "Chujjas", a very distinctive

feature of all Indian architecture and by their form well suited to construction in concrete, were also present in three-foot lengths. The "Chujja" is, essentially, a permanent awning and sunshade, the purpose of which is to provide protection from both sun and torrential rain. All stairways were cast in situ and, in the case of the main stair, the ornamental balustrade was likewise cast on the job.

One feature of the palace — a feature which required a degree of special planning —is the placing of all lavatories and bathrooms on the landward side of the building, thus leaving the sea aspect entirely free for sleeping and living rooms. In view of the fact that the prevailing breezes come in off the water, this plan has practical as well as aesthetic value.

In general, the new palace appears to be an excellent combination of indiginous architectural motifs and modern structural practices. The contractors, J. C. Gammon, Ltd., Bombay, are experienced in the use of concrete, having to their credit the Wagholi Bridge, over the Purna River, in Bombay, a reinforced concrete structure built to withstand the stresses of annual floods which submerge the entire bridge and rise ten or more feet above it.

Possibly of greater immediate interest to American architects is the work which is being done in the congested city of Bombay. There, where it is impossible because of site limitations to build comfortably, sprawling, low-roofed bungalows, flats and chawls have become the conventional thing, just as in the American cities.

The most recent, and probably the finest example of Indian apartment house architecture is a twenty-unit building erected at Colaba, in Bombay, by R. D. Patel and S. P. Mistry, with the architectural firm of Gregson, Batley and King, of Bombay, in charge.

As the illustrations show, the combination of chujjas and stair wells, on the sunny side of the building, produces a novel and attractive design which, though formalized, is distinctively contemporary in feeling.

This building is concrete throughout— beams, columns, elevator shafts and even the overhanging chujjas having been cast in place. Great care was taken to insure an atmosphere of cool and airy cleanliness. Over the concrete floor, in living rooms, bath and dining rooms, and on the staircases, Italian marble was laid, but in all other rooms concrete floor tile were used. Similar flooring is found on the verandahs, to which considerable space is given.

Servants' quarters are included with each apartment but are so laid out that they are isolated from the other rooms. Electricity heats all the hot water required and operates the semi-automatic elevators.

VIBRATORY MOVEMENTS OF SAN FRANCISCO SKYSCRAPERS

OBSERVATIONS by Perry Byerly, Jas. Hester and Kenneth Marshall on the vibratory movements of fifteen high buildings in San Francisco, reported in the Bulletin of the Seismological Society of America, December, 1931, showed the unexpected fact that in some of the buildings the fundamental vibration is accompanied by a shorter period movement and that in certain cases a distinct vertical component of vibration exists. In addition, a much more rapid vibration, or tremor, believed to be due to traffic disturbances, was evident in several of the structures, says *Engineering News Record* (New York). The observations were made with the vibration recorder of Prof. E. E. Hall, of the University of California, and constructed by him primarily to study traffic-disturbance effects. The instrument is a three-component seismograph in which the two horizontal movements are measured by conical

pendulums, each of 25-lb. mass, while the vertical movement is measured by a 25-lb. weight suspended from three springs, all masses being damped by vanes in oil.

No data on amplitude of motion is given except for the statement that in no case was the amplitude greater than 0.2 mm.

The long period of the several buildings in no case exceeded 2 sec. Where a secondary period of harmonic was present in combination with the fundamental (in several cases there was more than one such secondary period) this period ranged from one-half to one-tenth the fundamental period. In one case two directly adjoining buildings of approximately the same height showed identical periods in the direction parallel to both, indicating that they vibrated as a unit. The vertical vibrations, observed in more than half the buildings, had periods ranging between 0.04 and 0.58 sec.

Vibration Periods of San Francisco Buildings

Building	Horizontal Dimensions, Feet	Height Above Ground, Feet	Height Above Ground, Stories	Periods of Vib., Horizontal N-S	Periods of Vib., Horizontal E-W	Sec. Vert.
450 Sutter Street	130x160	340	26	1.2	1.4	.....
Shell Building	117x137	389	29	1.80	1.85	.....
Russ Building	275x166	435	36	1.71	1.89	0.28
		.....	.....	0.78	0.85	0.05
		.....	.....	*0.08	0.17	.....
		.....	.....	.....	*0.06	.....
Hunter-Dulin Bldg.	100x160	309	24	1.48	1.33	.....
		.....	.....	0.49	0.15	.....
		.....	.....	0.05	*0.09	.....
Mark Hopkins Hotel	193x171	257½	19	1.27	0.95	0.21
		.....	.....	0.14	.....	0.05
William Taylor Hotel	137½x137½	325	28	1.34	1.32	0.04
		.....	.....	.....	0.57	.....
Alexander Building	69x 60	204½	15	1.23	1.32	.....
		.....	.....	0.39	0.41	.....
Sir Francis Drake Hotel	116x138	282	23	1.49	1.82	0.51
		.....	.....	.....	1.29	.....
Bank of America	82x 48	181	15	1.64	1.41	0.52
		.....	.....	0.90	0.90	*0.07
		.....	.....	0.50	0.43	.....
		.....	.....	*0.07	.....	.....
P. G. & E. Co. Bldg.	137½x137½	262	17	1.50	§1.28	.....
		.....	.....	0.90	0.55	.....
Matson Building	133x133	320	17	1.44	§1.26	0.53
		.....	.....	1.21	.....	.....
Insurance Center Bldg.	206x 84	206	16	1.41	1.07	.....
		.....	.....	0.20	0.48	.....
deYoung Bldg.	.....	.....	16	1.53	1.36	0.55
		.....	.....	0.59	0.90	*6.08
		.....	.....	0.17	0.15	.....
Western States Life Bldg.	90x 63	207	15	1.03	1.33	.....
		.....	.....	0.18	0.16	.....
City Hall	.....	.....	.....	.....	0.65	.....

*Vibrations believed due to traffic.

§Vibrations of P.G.&E. and Matson buildings are considered a coincident vibration.

SAN FRANCISCO OFFICE BUILDINGS REPLACE LIQUID FUEL WITH GAS

by
JAMES R. FERGUSON

THE installation of any central heating plant demands two principal considerations, the type of boiler to be used, and the selection of the fuel to be burned. Generally speaking, any of the three classes of fuels, solid, liquid or gas, may be used in any boiler, but of immediate interest is the possibility of securing the utmost in efficiency and economy in already existing boiler plants, by the adaptation of the most practical fuel.

To obtain the best results, three factors should govern the choice of boiler fuel, the direct fuel cost, the indirect expenses resulting from maintenance of equipment, and the operating facility with which the fuel burning equipment may be utilized. All of these factors influence the ultimate total heating costs, and should be equally considered.

On the West Coast within the past few years, natural gas has been finding increasingly wide acceptance as the most practical fuel in effecting all-around boiler efficiency and economy. In the territory served with this fuel, practically every new heating installation is being supplied with it, and hundreds of already existing plants have been converted to its use from other fuels, until by far the greater proportion of steam boiler plants are now using this fuel.

There are, of course, numerous different types of boilers in general use, but it has been found that, regardless of the type of boiler design or construction, natural gas can be applied with equal advantage to any installation.

To illustrate this with actual instances of application, four heating plants will be described herein, each embodying boilers of distinctive design, and each having been converted from the use of liquid fuel to gas. The four types of boilers treated include the horizontal return tubular, Stirling water tube, Scotch Marine, and B & W water tube, and these are representative of the variations commonly found in heating plants.

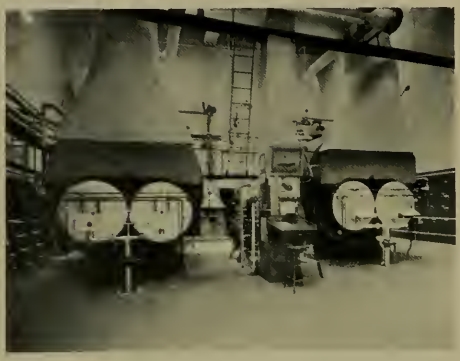
SOUTHERN PACIFIC BUILDING, SAN FRANCISCO

The first type, or horizontal return tubular boiler of the fire tube type, is represented by the steam plant of the St. Francis Hospital, Hyde and Bush Streets, San Francisco, which is composed of three of these units, each of 100 H. P. rated capacity. Extremely simple in design, they are made up of a horizontally suspended boiler drum mounted in the conventional brick set-

ting, with horizontal fire tubes. Two N.G.E. gas burners are installed in each boiler.

The first consideration, actual fuel cost, shows that a very material saving was here effected by the change from liquid to gas fuel, the monthly fuel bill being thereby reduced from $650.00 for oil to $525.00 for gas, a reduction of 20%.

Engineer Wright, in charge of this plant, is authority for the statement that an annual expenditure of $500.00, previously



BOILER PLANT, SOUTHERN PACIFIC BUILDING, SAN FRANCISCO

made for cleaning, rebricking of furnaces, maintenance of oil pumps, etc., has also been eliminated by the use of the new fuel.

Whereas it was previously necessary to clean the boiler tubes once every week, the sootless and smokeless burning of gas has rendered this unnecessary, and this cleanliness of gas fuel is one of its most attractive advantages.

With liquid fuels, it is generally necessary to reline the furnace at least once a year, due to local or hot spot burning. Gas, on the other hand, distributes an even heat throughout the entire furnace, maintaining the whole firebox at an even temperature, and imposing an equal share of the load on each brick, resulting in greatly extended duration of the furnace walls.

Even pressure at the gas burners is maintained by a Wilgus fuel regulator. A steam pressure reducing valve on the line automatically controls the fuel supply to conform with the steam pressure load being supplied.

Steam pressure can be controlled to a finer point with gas fuel, and a sterilizer in use in this hospital basement illustrates the accuracy of control required. Consisting of a revolving cylinder, this apparatus requires a 60 lb. steam load when in operation. It is first brought down to a 20" vacuum, which requires a half hour, after which it is brought up to a temperature of 257° F, requiring 1½ hours. Finally, it is brought down again to a 20" vacuum for drying out.

With a combustion efficiency of 79.3%, this gas-fired plant develops 150% of rating at 2 lbs. pressure. In operation 24 hours per day, it supplies steam for building heating, laundry requirements, surgery requirements, and for heating four other buildings nearby.

The second type of boiler is illustrated by the heating plant of the Russ Building, 235 Montgomery Street, San Francisco, consisting of three Stirling water tube boilers of 125 H.P. each. These boilers are made up of three transverse steam and water drums, set parallel and connected to a mud drum by water tubes so curved as to enter the tube sheets radially. Each boiler develops 240 H.P. at 3 lbs. manifold gas pressure, and the baffling is so arranged that the heat is thoroughly distributed without loss.

In this instance, the actual fuel saving resulting from conversion from oil to gas has amounted to $50.00 per month, or a reduction from $400.00 with oil to $350.00 with gas.

At the time of conversion, seven N.G.E. gas burners were placed in each boiler, requiring only the removal of some of the floor brick in the furnaces.

We will treat accuracy of control in relation to this plant, and according to Engineer Weber, the variation in steam pressure is held within a 2 lb. limit with gas firing. The reason for the greater facility of control that occurs with gas firing is that the fuel is introduced in a perfect gaseous state, and thus is more susceptible to proper

combustion and complete automatic control.

Because of this superior combustion, gas controlling and regulating devices are more sensitive in their action. Solid and liquid fuels, due to their comparatively uneven content, sluggish action and pipe friction, result in irregular combustion and difficulty of control, while gas control equipment is actuated on a very small pressure variation, and is so constructed as to maintain the various rates of gas flow with very little movement on the part of the operating mechanism.

Boiler fires can be started with gas in less time, because the fuel requires no atomization. This also results in a burner of simpler design and construction, eliminating any maintenance or trouble in this respect. The liquid fuel previously used had to be mechanically self-atomized, causing considerable delay in firing up.

The appearance of the boiler and the condition of the boiler tubes have been greatly improved by the sootless and smokeless burning of gas, as these residues which previously settled throughout the boiler room and accumulated in the tubes, necessitating frequent cleaning, are now entirely absent.

Cleanliness has also benefitted the stack, which in this building is exceptionally long, extending 600 feet from the boilers to the top of the building. Considerable corrosion occurred with liquid fuel, as the gasses were very cool by the time they reached the top. This is caused by the sulphur in the fuel. This does not occur with gas, as there is no such acid condition.

Room temperatures in the Russ Building are controlled by a Johnson control system, which automatically registers the variating steam requirements on the boiler control equipment, and proper corresponding steam pressures are maintained constant. When the radiators are shut off, tending to increase the boiler steam pressure, the Wilgus gas fuel regulator automatically decreases the fire.

The third type of boilers to be described are those in the steam plant of the Southern Pacific Building, 65 Market Street, San Francisco. These are two 150 H.P. dry back type Scotch Marine boilers of double furnace construction. There are two fireboxes in the lower part of the boiler shell, and these are constructed of corrugated steel, measuring approximately 3½ x 18 feet. Fire tubes are arranged in longitudinal rows above the furnaces, through which the heated gases return in their passage to the stack. Each furnace is fired with one N.G.E. gas burner.

Conversion of this plant from oil to gas resulted in an annual fuel cost reduction from $5,092.00 to $4,143.00, or a total annual saving of $949.00.

To secure the best operating results, the circular furnaces, at the time of conversion,

BOILER PLANT, RUSS BUILDING, SAN FRANCISCO

were paved with firebrick covering about two-thirds of their circumference, and a checker wall was installed at the rear of the fire tubes. This brick and checker work provides a radiant surface which aids in the combustion of the gas, gives a better heat transmission, and helps in maintaining a higher firebox temperature. The combustion efficiency of this plant is approximately 82%, from a minimum to maximum load. Steam is generated for building heating and miscellaneous boiler accessories.

Fourth to be considered are the three B & W water tube boilers constituting the heating plant of the Ferry Building in San Francisco. These boilers have a capacity of 90, 100 and 150 H.P. respectively, and the plant supplies all steam for building heating, steam hammers, pumps and other ma-

chinery for general harbor maintenance purposes. It is in operation 24 hours a day during the winter season.

GAS FIRED BOILER PLANT, FERRY BUILDING, SAN FRANCISCO

The water tube boilers in use here are of the single longitudinal drum type, enclosing a section of seamless steel tubes staggered with respect to each other and inclined at an angle of 15° to the horizontal. Each section is composed of a downtake header supplying water to the tubes and an uptake header discharging water and steam from the tubes.

A 25% monthly saving in fuel cost has been the result of this conversion from oil to gas. Whereas the previous annual fuel bill with oil approximated $7,984.00, gas is now used at a cost which averages $6,000.00 per year.

A firing valve in connection with a Merit control system operates stack and fire dampers in this installation, providing three possible fires automatically regulated at 5 oz. fuel pressure on the first fire, 1½ lbs. on the second, and 3½ lbs. on the third. Combustion efficiency on the average load has been approximately, 83%, 84% and 79% on each respective boiler, because of the accuracy of this control.

In almost any heating installation, there are possible minor changes in boiler construction and operation which, if executed properly, will materially increase the boiler efficiency. In this instance, a horizontal baffle was installed from the front bridge at the time of conversion. This serves to circulate the flame around the tubes instead of straight up against the tubes, thereby eliminating dead pockets that sometimes occur in such furnaces.

Conversion to gas necessitated alteration of the furnace to the extent of removing the oil deck and building a new floor made up of hollow tile insulating brick and firebrick, with a top layer of silica quartz. The hollow tile floor was constructed in such a way as to allow drawing of air from an opening in the sides at the bridge wall, feeding into a tile manifold carrying it through and discharging it directly in front of the burners. The oil burners were left in place and arranged for instant changeover.

The practical superiority of gas fuel, according to Engineer Wadsworth, in charge of this plant, has been experienced in its cleanliness, its preservation of the boiler walls, and the fact that its operation requires less attention because of the complete automatic control and elimination of cleaning. The saving due to the longer life of the boiler walls is accounted for by the fact that gas gives a more evenly distributed fire which does not result in tearing down the brickwork.

Those familiar with heating installations and desirous of increasing the efficiency of their own plants and of reducing expenses at the same time, will see from the foregoing that any type of boiler plant may be operated with gas fuel to advantage.

STRUCTURAL ENGINEERS GIVEN LICENSES BY STATE BOARD

THE California State Board of Registration for Civil Engineers, has issued licenses to 242 engineers which is only a partial list since more than 5000 civil engineers have registered.

Prior to the April examination 5159 civil engineers had been registered, while the right to use the title "structural engineer" had been granted to 235 civil engineers. A complete list of those to whom structural permits have been issued, excluding the seven who passed the April examination, follows:

Adrian, W., San Francisco.
Alexander, Fred J., Los Angeles.
Anderson, A. W., Berkeley.
Andrews, Hervey N., Tehachapi.
Ashcroft, Glenn B., Alameda.
Baker, Philip I., Alhambra.
Barket, Ralph, San Francisco.
Barlow, Joseph Ames, Los Angeles.
Barnes, Stephenson B., Los Angeles.
Barr, James C., Huntington Park.
Bastos, A. Brito, Los Angeles.
Beach, J. G., Berkeley.
Bean, Henry E., Los Angeles.
Beanfield, Rufus McClellan, Los Angeles.
Beilharz, Wm. E., San Diego.
Berrien, I. L., Beverly Hills.
Betram, Edward A., Berkeley.
Beyer, Adolf, San Diego.
Binder, R. W., Los Angeles.
Bley, Charles N., Berkeley.
Bolin, Harry W., Berkeley.
Bostock, W. M., Huntington Park.
Bowen, Oliver G., Los Angeles.
Breite, W. W., San Francisco.
Brown, Archibald A., San Francisco.
Brown, Ulysses G., Piedmont.
Bruner, Edwin L., Los Angeles.
Brunnier, H. J., San Francisco.
Buehler, Walter A., Venice.
Buell, R. C., San Anselmo.
Bullen, Arthur C., Los Angeles.
Burgess, E. O., San Francisco.
Burne, Stanley, San Diego.
Callahan, Ezra Leo, Los Angeles.
Chace, Thomas F., San Francisco.
Chew, Richard Sanders, San Francisco.
Clapham, Francis J., Berkeley.
Cole, Harvey M., San Diego.
Collins, Merton C., Oakland.
Cook, Clarence W., Hollywood.
Cook, F. B., Jr., Oakland.
Cooley, R. H., Oakland.
Cooper, H. Scott, Alhambra.
Cope, Erle L., San Francisco.
Corlett, Will G., Oakland.
Couchot, Maurice Charles, San Francisco.
Cox, Harry A., San Mateo.
Cunningham, Edward W., Glendale.
Dalton, Robert D., Oakland.
Davis, Raymond E., Berkeley.
Day, William Peyton, San Francisco.
DeLine, Ralph A., Los Angeles.
de Pfyffer, Albert, Los Angeles.
Derleth, Charles, Jr., Berkeley.
Derrick, Clarence J., Los Angeles.
DeSwarte, C. G., Los Angeles.
Deuel, C., Los Angeles.
Dewell, Henry D., San Francisco.
Dlouhy, Francis N., Los Angeles.
Driver, Clarence W., Los Angeles.
Drummond, W. G., Alhambra.
Eckart, Hugo, San Gabriel.
Eckerson, Wellington L., Los Angeles.
Ellison, W. H., San Francisco.
Emmett, Wm. E., Piedmont.
Engle, Harold M., San Francisco.
Erick, Murray, Los Angeles.
Eickson, Charles J., Beverly Hills.
Evans, E. A., Los Angeles.
Falk, Mark M., Los Angeles.
Francis, Ernest D., San Francisco.
Firth, Greenwood W., Long Beach.
Fisher, R. Raymond, South Pasadena.
Fosdyke, Geo. J., Los Angeles.
Gabrielson, M. J., Hollywood.
Galloway, John D., San Francisco.
Gentry, Francis Hudson, Long Beach.
Gibson, Josiah, Glendale.
Goodwin, Phillip R., Oakland.
Gorman, S. S., San Francisco.
Gould, John J., San Francisco.
Grady, H. G., Los Angeles.
Grant, Kenneth C., Los Anglees.
Green, Frederick M., Sacramento.

Green, Norman B., San Francisco.
Grut, Ryan A., Los Angeles.
Gulick, Chas. W., Stockton.
Hall, Frederic F., San Francisco.
Halsey, Milo C., Los Angeles.
Hammill, Harold B., San Francisco.
Hanneman, J. Frederic, Los Angeles.
Hansen, Charles, Oakland.
Hanson, Robert A., San Francisco.
Hassemiller, Wilford S., San Francisco.
Hess, C. W., Alameda.
Hill, Austin M., Los Angeles.
Hodge, Frank S., Los Angeles.
Hovey, Ray Palmer, San Pedro.
Huber, E. R., San Francisco.
Huber, Walter L., San Francisco.
Hubert, Cyril Provo, Los Angeles.
Illerich, Ottomar T., Oakland.
Jeffers, Paul E., Los Angeles.
Johnson, Frank A., Berkeley.
Jones, Preston M., Los Angeles.
Kellberg, F. W., Oakland.
Knapik, San Francisco.
Knipe, Los Angeles.
Kromer, Clarence H., Sacramento.
Lamont, Matthew, San Diego.
Leonard, Jno. B., San Francisco.
Little, John G., San Francisco.
Lloyd, Thos. P., Glendale.
Long, Walter J., Sacramento.
Ludlow, J. Wyman, Pasadena.
Lyman, Richard F., Jr., Oakland.
Mair, John William, Glendale.
Makosky, Frank C., Alhambra.
Makutchan, Los Angeles.
Marsac, Gerald, Los Angeles.
Marsh, Earle S., Los Angeles.
Martel, Romeo Raoul, Pasadena.
Martin, Arthur Raymond, Long Beach.
Marvin, Ralph E., Los Angeles.
Merrill, David H., Los Angeles.
Middleton, J. G., Los Angeles.
Miller, A. F. J., Monrovia.
Miller, George W., Los Angeles.
Miller, R. A., Los Angeles.
Miller, Robert P., San Gabriel.
Moran, Wm. J., Los Angeles.
Murray, Clyde E., Glendale.
Narver, D. L., Los Angeles.
Nelson, Harold A., Los Angeles.
Nishkian, L. H., San Francisco.
Noble, Harold A., San Diego.
Noice, Blaine, Los Angeles.
Oberlies, J. L., San Gabriel.
Parker, Llewellyn A., Los Angeles.
Patten, Norman B., Los Angeles.
Pease, Allen R., Los Angeles.
Perkins, Mac D., Berkeley.
Phelps, L. W., San Francisco.
Plant, Francis B., Oakland.
Platt, Harold C., San Diego.
Posey, George Addison, Oakland.
Poss, Victor H., Berkeley.
Putnam, Walter, Pasadena.
Rapp, V., Los Angeles.
Ray, David H., Los Angeles.
Reeder, Kenneth A., Pasadena.
Reynolds, Frank Howard, Sacramento.
Roney, William H., Alhambra.
Ronneberg, Trygve, San Francisco.
Rootham, H. M., Los Angeles.
Roper, James Hunter, Oakland.
Rosenwald, Jesse, San Francisco.
Rudolph, Edwin F., Los Angeles.
Russell, Earle, San Francisco.
Sahlberg, Manley W., Sacramento.
Sandner, Victor R., Berkeley.
Saph, A. V., Jr., San Francisco.
Sasso, Maurice, Los Angeles.
Sauer, Arthur A., Los Angeles.
Sauter, Clayton, San Francisco.
Sawyer, Frank L., San Francisco.
Schulte, G. H., Glendale.
Seage, Clarence E., San Francisco.
Seaver, Edward D., Alhambra.
Sexton, J. M., Los Angeles.
Shield, John E., Los Angeles.
Shields, James Ralph, Sacramento.
Shoemaker, Robert Radcliff, Long Beach.
Shugart, Donald F., Los Angeles.
Sly, C. Jefferson, Oakland.
Smead, Ralph A., Los Angeles.
Smith, Aaron J., Long Beach.
Smith, Henry M., Long Beach.
Smith, Jas. M., San Francisco.
Snyder, C. H., San Francisco.
Sorrell, Jas. O., Santa Monica.
Spitzer, Felix H., San Francisco.
Squire, Harry E., San Francisco.
Stanbery, Floyd E., Pasadena.
Swain, Clarkson, San Francisco.
Sweeney, John, North Hollywood.
Taylor, Ellis Wing, Los Angeles.
Teasdale, W. O., San Diego.
Theill, Kaj, San Francisco.
Thomas, William M., Eagle Rock.
Thorne, H. W., Los Angeles.
Van Alstine, Roy D., Long Beach.
Vensano, H. C., San Francisco.
Wailes, Charles D., Jr., Long Beac
Walker, J. M. Church, Redwood City.
Waller, Laurence J., Los Angeles.
Walsh, Earl J., Alhambra.
Ward, Roy E., Los Angeles.
Ware, Richard W., Pasadena.
Wartenweiler, Otto, Los Angeles.
Webster, H. Sage, Los Angeles.
White, Frank G., San Francisco.
Whittlesey, H. C., Los Angeles.
Whitton, Chas. A., Oakland.
Wiley, Mellen C., Chicago, Illl.
Willett, D. C., Sacramento.
Williams, Robert J., San Pedro.
Wilson, N. E., Los Angeles.
Wright, J. G., San Francisco.
Wright, John A., San Francisco.
Zollner, Carl W., Ross.
Atkinson, Arthur G., Modesto.
Cotterill, Geo. W., San Francisco.
Ellery, N. B., Oakland.
Gill, Gerald F., Palo Alto.
Haun, George C., Oakland.
Krafft, Alfred J., San Francisco.
Powers, H. C., San Francisco.
Schellenberg, G. W., Berkeley.
Byers, James E., Beverly Hills.
Craig, Burt L., Long Beach.
Harwick, Samuel, Hollywood.
Kadow, Robert J., Los Angeles.
Kershaw, Joseph H., San Diego.
LeVan, Alvin, Santa Monica.
Marshall, K. Irving, Los Angeles.
Reese, Vincent M., Los Angeles.
Ropp, F. N., Los Angeles.
Taylor, Ralph T., Pasadena.
Webber, Charles L., Los Angeles.
Bastow, J. G., Oakland.
Henry, Rodney Wm., San Francis
Lotz, Wm. D., San Jose.
Pregnoff, M. V., San Francisco.
Rosenthal, Hyman.

In addition to those who failed to pass the structural engineers' examination, the board has denied 30 applications, it is announced.

CONCRETE FOR HOOVER DAM

Part 1 CONCRETE AGGREGATES

by
W. R. NELSON

THE concrete which was poured on March 5, 1932, in the foundation for the 100-foot high trash rack at the inlet portal of the Nevada inner diversion tunnel was the first concrete to be poured under the contract for construction of Hoover Dam, power plant, and appurtenant works.

This operation was the commencement of concreting which will continue until approximately 4,400,000 cubic yards have been poured. It also marked the culmination of the investigations and studies that have been conducted since 1929 for the location of a deposit of suitable concrete aggregates, the building of a railroad for transportation of these aggregates, the construction of a screening plant for segregation and classification of sand and gravel, and the building of a mixing plant capable of manufacturing, in the required quantities, the quality of concrete designated in the specifications of 2,500 pounds per square inch compressive strength for mass concrete and 3,500 pounds per square inch for thin sections.

Aggregates of sand and gravel for the concrete are taken from the Arizona deposit by a 5-cubic-yard electric dragline, dumped into 50-ton side-dump cars, transported across the Colorado River on an 850--foot pile-trestle bridge and then over 6 miles of railway to the screening plant. Here the aggregates are dumped into bunkers, thence transported by a series of lateral belt conveyors to rotary and vibrating screens which separate the pit material into sand and four sizes of gravel, and then by another series of transverse conveyors deposit each in a separate stock pile. Sand and each size of gravel are loaded by belt conveyors into separate railroad cars and transported 4.7 miles to a concrete mixing plant located in Black Canyon approximately 1 mile upstream from the Hoover Dam site. The sand and gravel are dumped from the cars into their respective bins below the track and then elevated by belt conveyors to storage at the top of the concrete plant. The sand, gravel, and cement are conveyed to batchers and to the mixers where water is added. Mixing of each batch is carried on for a minimum of two and one-half minutes in 4-cubic-yard mixers. The concrete is then dumped into an agitator drum mounted on an 8-ton truck and transported to the site for pouring.

Arizona Gravel Deposit

The Arizona deposit, from which all aggregates for the construction in Black Canyon will be obtained, is located on the Arizona side of the Colorado River six miles by air line north of the Hoover Dam site. The deposit lies along the river, covers an area of more than 100 acres, and, from investigations by test pits, has an

*Prepared for the Reclamation Era in three parts (1) Concrete Aggregates; (2) Concrete mixing plant; (3) lining the division tunnels with concrete. Part 2 will appear in the August issue and Part 3 in the September issue.

average depth of more than 30 feet. It is expected that not more than 3 feet of this depth will be discarded by surface stripping or removal of silt pockets; thus there will remain approximately 4,500,000 cubic yards of aggregates available for use in the dam, all of which will be needed. This deposit was chosen after extensive search had been conducted of the region for 50 miles in all directions from the dam site and tests had been made of aggregates from more than 20 different deposits.

An electrically driven dragline equipped with a 5-yard bucket is used for stripping and for loading aggregates. The pit is operated with three shifts daily, and at present an average of one hundred and fifty to two hundred 50-ton cars are shipped to the screening plant each 24 hours. The aggregates are transported in side-dump cars pulled by 90-ton-locomotives. The railroad line from the deposit to the screening plant is 7 miles in length and was constructed by the Six Companies (Inc.), contractors on the dam.

Screening Plant—General Description

The location of the screening plant is in the flat area at the lower end of Hemenway Wash about 2 miles west of the river and 2½ miles by air line northeast of the Hoover Dam site. It is situated at Three-Way Junction on the contractor's railroad, from which point one line leads to the Arizona deposit, another to the concrete plant in Black Canyon, and the third to the United States construction railroad connecting with Boulder City.

The screening plant essentially consists of a scalping station with its attendant crusher, four classification towers, sand washer, sand shuttle conveyor, four live storage piles east of the classification towers, and sand storage piles across the gravel loading tracks west of the towers. The aggregates from the Arizona deposit are either dumped at a raw storage site adjacent to the screening plant or into bunkers at the north end of the plant.

A 42-inch belt conveyor running in a concrete tunnel beneath the bunkers receives the aggregates through gates and hoppers installed in the roof of the tunnel and transports the material to the scalping station, dumping the aggregates into a 20-foot cylindrical revolving screen. This screen allows all material less than 9 inches in size to pass through its perforations, and dumps cobbles above this size onto a transverse conveyor leading to a gyratory crusher. After going through the jaws of the crusher, the broken cobbles are conveyed by belt to the 42-inch principal conveyor and return through the scalping station.

From the scalping station the material less than 9 inches in size is conveyed by a 36-inch belt conveyor to the first classification tower which is equipped with 2 vibrating screens. The first screen allows aggregates less than 3 inches in size to pass and dumps the 3 to 9 inch material on to a transverse conveyor which transports it to the stock pile. The second screen allows all sand less than ¼ inch in size to pass through its perforations and dumps all gravel onto a lateral conveyor leading to the second classification tower. In a similar manner the vibrating screen and transverse conveyor at this second station remove the ¾ to 3 inch gravel to a stock pile and the lateral conveyor transports the material less than 1½ inches in size to the third tower. Here gravel of ¾ to 1½ inch size is removed to a stock pile and all materials passing through the screen are conveyed laterally to the fourth tower, where a transverse conveyor transports this gravel of ¼ to ¾ in size to its stock pile.

Sand Washing

The sand removed by the vibrating screens in the first classification tower is chuted to a series of mechanical sand washers or classifiers. Water is added to the sand after it leaves the screen, and the sand and wash water enter the lower end of a mechanical sand washer consisting of drag blades installed on eccentrics. This arrangement, by reciprocating action, moves the sand progressively up the sloping bottom of the washer tank and out over the end to a chute through which the sand is conveyed by water to a second washer of the same type. The water and silt sepa-

rated from the sand in the tanks overflows at the lower end of the sand washer to a flume and thence to a sedimentation tank equipped with a traction clarifier and sludge pump. From this clarifier the water runs to a sump tank and is then pumped to a sedimentation tank located on a hill southeast of the plant for reuse. The sand after passing the second sand washer is transported by a belt conveyor through a concrete tunnel underneath the railroad tracks to a conveyor running parallel to the tracks. This conveyor connects with a tripper equipped with two transverse conveyors, all of which are mounted on a framework and rails supported by a steel trestle. This arrangement for sand storage permits piling the sand into stock piles, one on each side of the lateral supply conveyor and parallel to the railroad tracks.

Five railroad tracks have been laid for efficient loading of sand and gravel from the plant. Between the classification towers and the sand stock piles, there are three tracks—one for gravel loading, the next for sand loading, and the third, adjacent to the sand piles, for the operation of a railroad crane. On the west side of the sand piles are two tracks, the first for the railroad crane and the other for sand loading. The sand is loaded into cars by the crane, equipped with a clam shell bucket.

A concrete tunnel, 11 feet in height and 9 feet wide inside, is constructed beneath all gravel stock piles, and has contained therein a 24 or 30 inch conveyor belt which leads to screens in the lower part of the classification towers. The gates installed in the roof of the tunnel are opened from inside, allowing the gravel to drop into a hopper from which it is fed to the loading conveyor belt.

The belt dumps the gravel into a vibrating reclassifying screen, which passes all gravel of a size less than that supposed to be in the stock pile, dropping this smaller material onto a lateral conveyor which returns it to the scalping station. The material remaining on the screen flows from its lower end to a hopper and a 48-inch shuttle conveyor and thence to bottom-dump railroad cars. The gravel is kept continuously wet by sprinklers installed at the top of the stock pile and is washed by water jets as it is dumped from the reclassifying screen onto the loading conveyor.

Screening Plant—Details

The capacity of the plant with its present installations is more than 500 tons per hour. Four 50-ton cars can be loaded out every 16 minutes. Present construction allows for storage in stock piles of 1,700 tons of cobbles, 1,500 tons of each size of gravel and 22,000 tons of sand. By increasing the speed of the conveyor belts and making slight alterations, principally by extension of the transverse conveyors and the tunnels beneath the stock piles, the plant can be increased to a capacity of 1,000 tons per hour.

The plant is run by electrical power, requiring more than 50 induction motors for all operations. The supply conveyor and the conveyor to the first classification tower are run by 60-horsepower motors, the others by 10 and 20 horsepower, and most of the screens by 5-horsepower motors. The supply conveyor is 220 feet long, the lateral conveyors are 1,160 feet in total length, the transverse conveyors 710 feet, and the loading and shuttle conveyors 670 feet. The plant contains a 5-foot diameter, 20-foot long scalping screen, and 13 vibrating screens, 11 of which are 10 by 4 feet in size and 2 are 12 by 4 feet.

The plant is controlled from a central switching station located in the top of the scalping tower. Thirty-four sets of push-button switches electrically control all units of the plant, and one switch can stop all operations. At this same station the nine gates in the bottom of the supply bins are regulated by rheostat control, thus governing the supply of aggregates to the primary conveyor and the output of the entire plant.

« « « « With the Architects » » » »

MAX E. COOK RESIGNS

Max E. Cook, farmstead engineer, who has been connected with the California Redwood Association for the past eight years, has resigned, according to an announcement by C. H. Griffen, Jr., general manager. Mr. Cook's plans for the future are indefinite. Prior to his association with the Redwood Association Mr. Cook was connected with the California Land Settlement Board in the development of the Stanford Ranch at Durham, Butte County. Mr. Cook was also at one time associated with Houghton Sawyer, architect, of San Francisco.

HOSPITAL ADDITION

A large number of San Francisco contractors are figuring an eight story Class A medical school out-patient building for the University of California to be built on the site of the Affiliated Colleges at Second and Parnassus Avenues, San Francisco. Bids for this $600,000 structure are scheduled to be opened by the University Regents on August first. W. C. Hays is the architect.

MERCANTILE BUILDING

The S. H. Kress Company will build a three story Class A mercantile building on the site of the old College National Bank, Shattuck Avenue and Addison Street, Berkeley. A fireproof structure costing in excess of $100,000 is planned. The drawings are being prepared by the Kress Company's Engineering Department in New York City.

IVY DRIVE DUPLEX RESIDENCE

Edwin L. Snyder, architect, 2101 Addison Street, Berkeley, has prepared plans for a two story brick veneer duplex residence on Ivy Drive in the Arbor Villa Tract, Oakland, for Miss Agnes McCarty of the Hotel Durant, Berkeley. The estimated cost is $16,000.

BERKELEY RESIDENCE

A. L. Lengel of the *Oakland Tribune*, has had plans prepared by F. H. Slocombe, architect, for a $7000 English residence to be built in North Cragmont, Berkeley.

ADDITION TO SHOP BUILDING

The Alhambra Union High School District has had plans drawn by William H. Weeks, architect, of San Francisco, for a one story reinforced concrete addition to the high school. It will consist of a manual arts and domestic science shop. An extension to the heating plant of the Alhambra school is also planned, and the students are sponsoring the building of a reinforced concrete swimming pool.

DEPARTMENT STORE BUILDING

Plans have been completed by Frederick Whitton, 369 Pine Street, San Francisco, for remodeling the three story department store, office and apartment building at Second and Brown Streets, Napa, which was gutted by fire last winter. The Behlow Estate owns the property, the lessees being the Winship-Beard Company of Napa.

MORTUARY CHAPEL

John O. Little, C. E., 251 Kearny Street, San Francisco, has prepared structural drawings for a Class A mortuary chapel at Masonic and Golden Gate Avenues, San Francisco. The building will be 95x115 feet with tile roof and will cost $50,000. J. Karew collaborated with Mr. Little in producing the plans.

DOG RACING PLANTS

Dog Racing plants are being built in San Jose, Stockton and South San Francisco, to compete with the Bay Shore Kennel Club's track at Belmont. The Belmont racing course will be improved this summer with a new grandstand wing and additions to the kennels.

THEATER ALTERATIONS

Alterations costing $50,000 are to be made for the New Mission Theater, at 2550 Mission Street, San Francisco, owned by Nasser Brothers. The architects are Miller & Pflueger of San Francisco.

COUNTY HOSPITAL ADDITION

Swartz & Ryland of Fresno have prepared plans for alterations to the County Hospital of Fresno, estimated to cost $10,000.

CLIFFORD A. TRUESDELL, JR.

Clifford A. Trusdell, Jr., architect of Los Angeles, aged 38, died at the Veterans' hospital, Sawtelle, July 6 of appendicitis.

Mr. Truesdell had been engaged in architectural work in Los Angeles for twenty years. He took an active interest in the Los Angeles Architectural Club of which he was past-president. He was one of the originators of the Small Homes Service Bureau and was instructor in architectural drafting at Fremont High school. He served in the World War and was a member of Sunshine Post, American Legion and Clarence Smith lodge, F. & A. M.

ARCHITECTS LOSE SUIT

Will P. Day and W. H. Weeks, architects of San Francisco, lost their suit at Salinas against Dr. H. C. Murphy for architectural fees in connection with the submission of plans for the new Park-Lane hospital in that city. Mr. Day sought $2,500 and Mr. Weeks asked $1,500.

The judgment, holding that neither architect was entitled to payment for their plans, which were not used, was announced by Superior Judge H. G. Jorgensen.

GRANTED CERTIFICATES

The State Board of Architectural Examiners, Southern District, has granted provisional certificates to practice architecture in California to the following: Hervey Parke Clark, 24 E. Pedregosa Street, Santa Barbara; Fred Willard DeFoy, 4229½ Kansas Avenue, Los Angeles; Earl F. Giberson, 3955 St. James Place, San Diego; Donald Edgar Marquis, 930 Buena Vista Street, South Pasadena.

CITY HOSPITAL WING

A seven story steel and brick psychopathic ward building will be built at Potrero Avenue and 22nd Street, San Francisco, from plans by Martin Rist, architect, Phelan Building, San Francisco. The structural drawings were prepared by H. J. Brunnier. There is an appropriation of $400,000 for the new wing.

ADDITION TO PREVENTORIUM

The Kern County Board of Supervisors has commissioned Edward J. Symmes of Bakersfield to prepare drawings for a reinforced concrete addition to the County Preventorium at Kerns, Kern County, California, at a cost not to exceed $40,000.

WATSONVILLE RESIDENCE

An early California type house will be built near Watsonville by W. N. Cummings from plans by W. W. Wurster, architect, 260 California Street, San Francisco. The owner will spend $40,000 on the improvements.

MOOSE TO BUILD

The Royal Order of Moose of Santa Cruz has commissioned Edwards & Schary, 550 Montgomery Street, San Francisco, to prepare plans for a $20,000 reinforced concrete lodge building. The site is on Pacific Avenue, Santa Cruz.

BERKELEY RESIDENCE

W. F. Ruck, architect, 1101 Glen Arbor Avenue, Los Angeles, has completed drawings for an $8500 residence to be built on Tamalpais Road, Berkeley, for Professor and Mrs. A. Perstein of Oakland and Menlo Park.

BASCULE BRIDGE

An $80,000 bascule bridge is to be built over Petaluma River in Petaluma from drawings by L. H. Nishkian, C. E., 525 Market Street, San Francisco. The bids are to be received by the Petaluma City Trustees on August 8th.

SACRAMENTO JUNIOR HIGH

As soon as bonds are sold, construction will start on a new junior high school building at Sacramento from plans by Charles F. Dean, architect, of that city. The location is 54th and M Streets and the approximate cost is $280,000.

CARMEL RESIDENCE

W. O. Raiguel, architect, Del Monte Hotel, Del Monte, has completed plans for a Spanish type residence to be built in Carmel for Jean Guillard of the San Carlos Hotel, Monterey. The cost will be $22,000.

LIVERMORE RESIDENCE

Dr. K. Therkof of Livermore has awarded a contract for the erection of a $6,000 home in Livermore from plans by Leonard H. Ford, architect, 1435 Harrison Street, Oakland.

HOTEL ALTERATIONS

A. H. Knoll, architect, Hearst Building, San Francisco, has completed plans for alterations to the Claridge Hotel, 125 Mason Street, San Francisco, estimated to cost $25,000.

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PERSONAL

L. G. SCHERER and RAYMOND R. SHAW, architects, have moved their office from 1510 N. Vermont to 1610 Cosmo Street, Hollywood.

HUBERT AND TEAL, architect and engineer, 219 Griffin Building, Inglewood, desire catalogs and illustrated literature describing building specialties and materials.

CECIL A. SCHILLING, architect, and ARTHUR SCHILLING, engineer, have moved their office from the Farmers and Merchants Bank Building, Long Beach, to 149 Linden Avenue, Long Beach.

SMITH O'BRIEN, architect, announces the removal of his office temporarily to 2032 Baker Street, San Francisco.

FLOYD A. NARAMORE, architect of Seattle, is enjoying a trip abroad, leaving for Europe, after attending the A.I.A. convention in Washington.

PROF. STANLEY A. SMITH, of the Washington State College, is enjoying an auto tour with his family to their old home in Kansas.

RAYMOND J. ASHTON, of Ashton & Evans, 1155 First Ave., Salt Lake City, is the successor to Fred Willson as director of the National A.I.A.

CONTRACT WORK FAVORED

Construction of the Coast Range tunnel on the Hetch Hetchy water supply project of San Francisco by contract under a guarantee that it will be completed within the cost stipulated by the lowest bidder, is favored by the San Francisco Chamber of Commerce in the following statement endorsed by it:

"The San Francisco Chamber of Commerce is of the opinion that it will prove a costly experiment if the bid of the city and county for the completion of the Hetch Hetchy water and power project is accepted. That bid carries, and under the charter can carry, no guarantee that the contract will be fully performed within the amount of the bid.

"Now that the city's bid has been referred to Controller Leavy for investigation we urge that the investigation embrace the past experience of the city and county in the performance of similar works on the Hetch Hetchy project.

"If in the light cast by such an investigation it be found that the actual cost of similar works on the Hetch Hetchy project heretofore done by the city and county has substantially exceeded the city and county's estimate for that work, the San Francisco Chamber of Commerce recommends that the contract for the completion of the Hetch Hetchy project, in that event, be awarded to the lowest reliable and responsible bidder, and that a guaranteed cost to the city and county for the completion of this project be therefore assured."

EXHIBIT OF SMALL HOUSES

The traveling exhibition of the House Beautiful small homes competition has been on display in Pacific Coast cities the past month. Fifty selected designs present the work of architects from all parts of the country.

The majority of prize winners and honorable mentions in the western division were Los Angeles architects. In the eastern division, New York architects won most of the honors.

For the best house west of the Mississippi, first prize was awarded to Gordon B. Kaufman, Los Angeles; second prize, Roland E. Coate, Los Angeles; third prize, Austen Pierpont, Ojai, California. Honorable mention was given Roland E. Coate, Reginald D. Johnson, H. Roy Kelley, David J. Witmer and Loyall F. Watson of Los Angeles, and John F. Staub of Houston, Texas.

In the eastern division of the contest prizes were awarded to Franklin Abbott, New York City; Waldron Faulkner, New York City, and Dwight James Baum, New York City. Honorable mentions: Hudson & Hudson, Buffalo, two houses; W. E. Kapp, Detroit; Henry Dubin, Highland Park, Illinois; Baumann & Baumann, Knoxville, Tennessee.

EXHIBIT OF MODERN ARCHITECTURE

Commencing July 23 and continuing for a period of four weeks, an international exhibit of modern architecture prepared by the Museum of Modern Art, New York City, will be held in Bullocks Wilshire Building, Los Angeles. The collection is said to be highly informative and comprehensive of outstanding accomplishments in international architecture.

The exhibition is devoted to the new day in building, living and housing, and includes a dozen stunning models, also California work especially commissioned by the New York Museum, and huge photo enlargements, showing paramount specimens of progressive building work, as residences, apartments, educational institutions, and housing projects in Europe and America.

What New York and Chicago, Paris and Berlin accept as the new style of building apartments, residences, schools and churches and the new way of healthily and economically housing the people at large, is being shown in a fascinating international exhibition which the New York Museum of Modern Art has endowed magnificently and circulates through the metropolises of the Nation. Los Angeles receives it from Chicago. Californian work has been honored by inclusion in this international parade of new ideas in building.

Twelve models and 200 enlarged photos of work executed in France, Holland, Germany and the United States, California included, will be shown.

Members of the Honorary Committee for the Exhibition include: Dr. Rufus v. Kleinsmid, President of the University of Southern California; Governor Rolph, Mayor Porter of Los Angeles, Gordon B. Kaufmann, H. C. Chambers and Sumner N. Spaulding, the last three architects of Los Angeles.

TACOMA ARCHITECTS MEET

Sketches showing twenty important buildings in the United States, drawn by Ralph Bishop and Ed Young, Tacoma draftsmen, were viewed by the Tacoma Society of Architects at the June 6 meeting.

George Gove suggested writing to the *Tacoma News-Tribune* staff thanking the publication for the recent editorial on the rejuvenation of blighted areas and calling attention to the interest of the architects in such rebuilding.

S. J. Maxwell, chairman of the Marine Transportation committee of the Tacoma Chamber of Commerce, spoke on the need for a crusade to instill "Civic Courage." Roland E. Borhek replied for the architects, pointing out that the architects have always been enthusiastic boosters for the city's interest. Fred Breckon, secretary of the Tacoma Downtown Association, outlined a plan for modernization of Pacific Avenue.

1932 SKETCH COMPETITION

Notices have been mailed by the educational committee of the Washington State Chapter, A. I. A., announcing the 1932 sketch competition for draftsmen and architectural students in Washington. This will be the third contest. Carl F. Gould, Seattle, is committee chairman, and George Gove, Tacoma, subchairman. The prizes will consist of pencils, ink, paper and other sketching supplies provided by some of the leading manufacturing firms of the country. The judging will be held September 15 at the University of Washington. In the second contest held last year, 250 drawings were submitted by 45 contestants.

MARBLE COMPANY MOVES

The Vermont Marble Company announces the removal of its San Francisco office and display rooms from the old plant on Brannan Street to the Underwood Building, 525 Market Street. The company's new plant at 6000 Third Street, designed by Lewis P. Hobart, is completed and the mill and finishing department will soon be in operation.

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*Appears alternate months

TWELVE YEARS BUILDING ACTIVITY

Franklyn Hobbs, economist of Chicago, in a recent address before the Landis Award Employers' Association in Chicago, asserted that within the next eleven or twelve years "we will have erected in this country as many cubic feet of building space, as many square feet of floor space and as many square yards of pavement as now exist in the United States."

Quoting further from Mr. Hobbs we are assured that the above statement is not only a theory, but a fact which has been proved and proved and proved in the building operations of the United States. Proved absolutely four times during the last fifty years. A thing which has been proved that many times, repeatedly proved over a period of half a century in a country as big as ours, must be accepted as a fact, if anything is to be accepted as a fact.

"It takes a lot of courage, with all of the figures I have behind me, to tell this audience that, between now and 1945, and possibly between now and 1943, we will have erected in this country as many cubic feet of building space, as many square feet of floor space, as many square yards of pavement, as now exist in the United States. If we do not build more churches, than are now standing, we will make it up on school houses, or university buildings. If we do not pave more city streets, we will lay more country highways; if we do not build more office buildings, or more hotels, we will build more warehouses, and more single family dwellings.

"Incredulous, are you not? You long-experienced, hard-headed architects, contractors, and engineers, are not ready to accept the statement from a mere statistician that, in the next ten to fifteen years, it is your job to build a country equal to what lies before us today. The difficulty is that you men never thought of it in just that light. Most of you have never measured the growth of the needs of man. Let's talk about that for a moment.

"The average price of all things is now about 25% below the average for one hundred years, and yet it costs a man three times as much to live as it did just a generation ago. It costs a man nine or ten times as much to live as it did one hundred years ago, and yet I remind you that the average price of everything we eat, wear, use, or consume is 25% below the average for one hundred years. The difference in the cost of living, which is covered by this 200% increase since 1900, is the amount required to purchase the things we did not have in 1900, and which we could not get along without today. It costs you, each of you, three times as much to live now as it cost you to live in 1900, even though you live no more extravagantly now than you did then. So much for the growing demands of men.

"These growing demands of men require a similar increase in buildings of every nature. The telephone, the electric light, the oil heater, the radio, the mechanical refrigerator, the automobile, —all of these require buildings in which they may be made, and in which they may be stored, and office buildings to house the executives, and the clerical force, which handle their distribution. I submit, then, that the growing demands of men include a corresponding demand for additional building space and, when the demands of men multiply themselves by three in a generation, the accompanying demand for space insures the erection of practically three times as much space during a generation of time as was in existence at the beginning of that generation.

"I think the single family dwelling is coming back, just as the small factory is now staging a sensational comeback. We shall have more hotels and large apartment buildings, but the principal building activity for the next two or three years promises to be single family residences in suburban districts.

"Gentlemen, are you ready to build a city such as we now have before us during the next ten or fifteen years? You did it between 1887 and 1898; you did it again between 1899 and 1910; you did it again between 1911 and 1922; and you have almost completed the job of doing it again between 1922 and 1933. It is going to be done again between now and 1945 in the Chicago area, and in the New York area, and in the Detroit area, and in many other areas of concentrated population. It is going to be done also in the small cities, and in the medium size cities."

Reverting again to the Chicago situation, Mr. Hobbs closed his address with a strong plea against unwise Federal expenditures.

SEA CLIFF RESIDENCE

Milton W. Morrison, architect, 601-42nd Ave- San Francisco, has completed plans for a Mediterranean style residence to be built in Sub-division No. Sea Cliff, San Francisco, for Mr. Rusk. Mr. Morrison is also working on sketches for several other residences.

BUNGALOW COURT

A one story frame and stucco bungalow court is being planned by Williams & Wastell, architects, of Oakland. The site is on the Foothill Boulevard, Oakland.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This Month: Prices steady with a tendency upward.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.40 per bbl.
Cement (f.o.b. Job, Oak.) $2.40 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$16.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$100.00 M ft.		
1 1-16x2¼" T & G Maple	127.00 M ft.		
⅞x3½ sq. edge Maple	120.00 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	
Laying & Finishing	14c ft.	12 ft.	11c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 85c per gal, in cans and *9c per gal. in drums.
Raw Linseed Oil—71c gal. in bbls.
Boiled Linseed Oil—72c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10½c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	10¾c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	12¾c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90
Wood lath, $4.00 per 1000.	

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.23

⅝-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.16
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.60 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$77 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $70 to $75 per ton cost of steel; average building, $75.00.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caisson workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Elertric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

VENTILATING STANDARDS

The following resolution was adopted by the executive committee of the American Institute of Architects at its meeting held February 26-27:

Whereas, present laws and regulations relating to the ventilation of buildings require a tremendous annual expenditure for ventilating equipment, involving the health, welfare, and comfort of the general public, and

Whereas, the prevailing standards of practice in the ventilation of buildings are not supported by proven scientific facts, and

Whereas, competent hygienists and medical authorities, on the basis of authentic physiological data from reliable sources, are not in agreement with heating and ventilating engineers, and

Whereas, this chaotic condition has created a widespread dissatisfaction in the public mind regarding methods of ventilation, resulting in many objections to the present engineering practice, now therefore be it

Resolved, that the American Institute of Architects recommends the revision or repeal of present codes and regulations relating to the ventilation of buildings, wherever such codes and regulations are not supported by rational and authentic physiological data acceptable to both the hygienist and the engineer, and be it

Resolved, that the American Institute of Architects is opposed to the promulgation or adoption of further codes, requirements, regulations or standards for ventilation until such time as an agreement between recognized authorities in the medical and engineering professions has been reached regarding the necessary minimum standards for ventilation, and be it further

Resolved, that the American Institute of Architects favors the creation of a national movement to determine the factors to be considered in maintaining the health, comfort, and safety of the occupants of buildings as affected by ventilation and that these factors, when determined, shall be used as a basis for a ventilating code of fundamental minimum standards generally applicable in all communities, and be it further

Resolved, that the secretary be instructed to send a copy of this resolution to the boards of directors of the American Society of Heating and Ventilating Engineers, the American Standards Association, the American Public Health Association, the United States Public Health Service, the American Medical Association, the Ohio State Association of Architects, and the secretaries of all Chapters of the Institute, and that copy of this resolution be printed in *"The Octagon."*

ELECTRICAL CONVENTION

The Pacific Coast Electrical Association held its annual session at the Huntington Hotel, Pasadena, under the chairmanship of Dan L. Scott of the Los Angeles Gas and Electric Corporation, June 15, 16 and 17.

The first day was given over to reports and addresses by important personages in several industries, outlining the advancement of electricity in their respective fields. At luncheon an address was made by Dr. Vierling Kersey, state superintendent of public instruction.

Thursday a well demonstrated lecture was given by Dr. Ellis L. Manning on "Adventures in Science." The audience was held spellbound for several hours as Dr. Manning, with the aid of extensive laboratory equipment from the General Electric Company at Schenectady, N. Y., unrolled experiments in all lines of scientific electrical research. The general session at 8:30 p. m., was addressed by Paul M. Downing.

ARCHITECTURAL DESIGN

University of Southern California College of Architecture announces a course in graduate architectural design for 1932-1933, conducted by Richard J. Neutra, A. I. A., of Los Angeles. Mr. Neutra is a graduate with distinction of the college of architecture and engineering, University of Vienna, and postgraduate student, Ecole Polytechnique, Zurich, Switzerland. He is also author of "How America Builds," 1926, and "America, New Building in the World," 1929; also co-author of "Problems of Building," 1927. The University of Southern California will offer the graduate degree of Master of Architecture, and Mr. Neutra's course will be accepted in fulfillment of the graduate design requirement of this degree. Special students who have had sufficient training who are not candidates for the graduate degree will be permitted to register in Mr. Neutra's course.

INVENTS WINDOW DEVICE

Ralph Wyckoff, architect of San Jose, has a penchant for designing other things than public buildings, schools and homes. He has been awarded a patent for a device for opening and closing casement windows.

Several years ago Mr. Wyckoff drew plans for a home and specified such a device for the windows, thinking there ought to be one on the market. When he finally found that no such device was available, he designed one himself. This has been used successfully on several homes since then, so he decided to patent it.

He plans now to dispose of his patent rights to a manufacturing concern.

SOUTHERN CALIFORNIA CHAPTER

Delegates to the A. I. A. convention recently held in Washington, D. C., submitted their reports at the regular monthly meeting of Southern California Chapter, held at the Athenaeum, California Institute of Technology, in Pasadena, June 14.

Robert H. Orr outlined the plan for unification of the architectural profession, embodied in an amendment to Chapter V of the by-laws of the Institute, which was adopted, with modifications, by the convention. Mr. Orr stated the most important change was to permit state societies the privilege of choosing whether they shall join the Institute as corporate or affiliated members.

A. M. Edelman described a meeting of the National Council of Architectural Registration Boards and a luncheon given by the Producers Council, both held prior to the opening of the convention.

Ralph C. Flewelling made a report on several matters of interest. He also read a report prepared by Palmer Sabin, who was unable to attend the Chapter meeting.

Edwin Bergstrom spoke on the Economy Bill now before the Senate, which provides that all Federal government buildings shall be designed by civil employees and that design and construction shall be standardized. Mr. Bergstrom stated that an attempt was being made to amend this bill, the amendment to provide that the Secretary of the Treasury shall retain the powers he now has relative to employing private architects when he so desires. H. R. Bill No. 6187, a bill providing for the employment of private architects on all government building projects, has been tabled by both the Senate and the House.

Robert H. Orr reported on the national convention of the United States Chamber of Commerce, held in San Francisco in May, which he attended as a representative of the local Chapter.

Two resolutions pertaining to the exhibition of architectural work were adopted: One, that an exhibit be held during the Olympic Games, in the most suitable place available at that time; the other, that an exhibit with honor awards be held, probably the latter part of this year, the committee on exhibits to work out details and report back at a later meeting.

Carleton M. Winslow requested architects to submit buildings of a commercial or manufacturing character to be included in a list of structures for Olympic visitors to inspect. The list at this time includes suitable buildings of all kinds with the exception of the types referred to.

JULY CHAPTER MEETING

The July meeting of the Southern California Chapter, American Institute of Architects, was held at the International Institute, 435 Boyle Avenue, Los Angeles, Tuesday evening, July 12. The meeting was devoted to entertainment and a talk on fresco painting by David Alfaro Siqueiros of Mexico.

OREGON CHAPTER MEETING

The regular monthly meeting of Oregon Chapter of the A. I. A. was held June 28th in the office of A. E. Doyle and associates.

The secretary read a letter from Secretary Kemper enclosing the Institute's check for $97.65, which represents the amount of refund over tax due Oregon Chapter in connection with the equalization of delegate's expenses at the Sixty-fifth Convention. The check has been forwarded to Treasurer Herzog who is to issue a check for one-third of the total refund to each of the Chapter's delegates. This is in accordance with the resolution of the executive committee at its meeting March 17th, 1932. The Oregon Chapter delegates were E. F. Lawrence, W. R. B. Willcox and C. H. Wallwork.

A letter from the Mazamas suggesting an outing at their Mt. Hood club house produced little enthusiasm. The secretary was instructed to write a letter of thanks.

It was moved by Mr. Parker, seconded by Mr. Johnston, and carried unanimously, that the Oregon Chapter, A. I. A., endorse the candidacy of O. R. Bean for city commissioner.

It was moved by Mr. Holford and seconded by Mr. Whitney and passed, that Chapter dues be cancelled for one year.

After refreshments were served, Mr. Bean gave an informal exhibit of the diagrams, charts and maps which he has prepared in connection with the proposed Housing Code.

Howard R. Perrin, architect of Klamath Falls, Oregon, has applied for Associate membership with the Oregon Chapter.

PRODUCERS COUNCIL MEETING

The Producers Council of San Francisco, which has been active in the promotion of a better understanding between the manufacturers of building materials and building accessories and architects, held its final noon day luncheon, prior to the summer vacation period, at the Sir Francis Drake Hotel on June 23rd.

Those in attendance had the pleasure of listening to two unusually interesting talks by Messrs. Andrew Lawrence of the National Lead Company and Clark Baker, Sr. of Baker & Prussia, on the subjects of color and the illumination of color in their relation to architecture and store planning. Abstracts of their talks will be published in this magazine in the August issue.

TWO FEDERAL TRADE REPORTS

The monthly statement of the Federal Trade Commission, Washington, makes reference to two Congressional and Commission investigations pertaining to the building industry and regarding which detailed reports are being prepared for public consumption:

Cement Industry—(S. Res. 448, 71st Cong., 3d Ses.)

This is an investigation of competitive conditions in the cement industry involving an inquiry as to whether activities of trade associations of manufacturers of cement or of dealers in cement constitute violations of the anti-trust laws. In addition to the field work, which is almost completed, information has been received through questionnaire letters addressed to manufacturers, state highway commissions, dealers, contractors and ready-mixed concrete companies.

The work of classifying and assembling the information in the files, with a view to preparing a report, is well under way.

Building Materials Industry—(S. Res. 493, 71st Cong. 3d Ses.)

The Commission is directed by the above resolution to investigate and report facts relating to the letting of contracts for the construction of Government buildings, particularly wih a view of determining whether or not there are or have been any price fixing or other agreements, understandings, or combinations or interests among individuals, partnerships or cooporations engaged in production, manufacture, or sale of building materials with respect to the prices or other terms at or under which such material will be furnished contractors or bidders for such construction work.

The field work which has been conducted in connection with the investigation of certain specific industries is finished. A report covering the same is now being prepared.

THIRTY - FIVE - HOUR WORKING WEEK

Manufacturers, fabricators and distributors of building materials and equipment, as well as general contractors and architects, are much interested in Senate Bill 4500 introduced April 25 by Senator Wesley L. Jones of Washington. It provides that every contract on a Federal building shall require the provision that no laborer or mechanic doing any part of the work, either for general contractor or subcontractor, shall be required or permitted to work more than 35 hours in any one calendar week. The bill carries a penalty of $10 for each hour that any workman is required to work over 35 hours. It also provides that "goods in the manufacture of which laborers or mechanics have been required or permitted to work more than 35 hours in any calendar week shall not be permitted to pass State lines, and if so passed shall be subject to a 25% ad valorem penalty and in case of a repeated offense by the same shipper shall be subject to confiscation." The act does not apply to farm products. It may be suspended by the President "in case of a national emergency."

Senator Jones probably has in mind that such a law would afford work to a greater number of laborers and mechanics. That is a worthy and commendable objective, comments a writer in *Pacific Builder and Engineer*, who continues: "There is a question, however, whether the bill as now written is entirely feasible. Would it not be wise to consider carefully the practicability of placing an iron-clad 35-hour week upon all industries in the building field without consideration of the supply of skilled labor within that industry? The manufacture of some building materials might conceivably be handicapped considerably by the bill for the simple reason that skilled mechanics might not be available in numbers sufficient to meet delivery requirements in some instances."

A BEACON FOR SHIPS THAT PASS IN THE NIGHT

The historic heights of Telegraph Hill are soon to be crowned with an impressive monument—a tall pillar glistening white—which will rise 180 feet above the tree-clad eminence, destined to become a landmark of San Francisco harbor as prominent as the Statue of Liberty, outside New York City.

It will be the Lillie M. Coit Memorial to the pioneer volunteer firemen of San Francisco. Plans have been completed by Arthur Brown Jr., and the Park Commission, acting in conjunction with the trustees of the $200,000 fund provided from the estate of Mrs. Coit, expects to start construction within a short time.

The grooved pillar, shaft-like in proportions, will rise from a rectangular structure, architecturally reminiscent of the Old West. This foundation structure will be utilized as a scenic view restaurant. The pillar itself will be thirty-six feet in diameter at the base, tapering to twenty-seven feet at the top. It will be surmounted by a balconied structure from which a panoramic view of the city and bay may be had. An elevator and stairs to the top will be provided.

To prevent any possible blocking of a view of the shaft's majestic proportions, the City Planning Commission is preparing an ordinance to limit the height of buildings on all sides of the hill.

Under the height limit plan, buildings to be erected in the future and abutting the Telegraph Hill Park on the east and south will be limited to forty feet, on the west eighty-six feet and on the north 120 feet. Lower down on the slopes of the hill, higher structures can be erected.

An elaborate system of flood lighting for the monument and an airplane beacon at the top are incorporated in the plans. At night the gleaming pillar of light will be visible to ships entering the Golden Gate and the vessels far down the long arms of San Francisco bay.

BOOK REVIEWS

By Edgar N. Kierulff

THE DESIGNS OF LETTERING—By Egon Weiss. An exact system of letter spacing. Pencil Points Press, Inc., 419 Fourth Avenue, New York, N. Y. Price $5.00.

Architects and designers, engineers and draftsmen will find this volume an up-to-date, authoritative and comprehensive guide to the art of lettering presented by an expert letterer experienced both on the drafting board and as an instructor in the classroom. The scope of the book and the method of careful presentation of subject matter makes it invaluable to designer and draftsman as well as highly desirable for use in the classroom and for outside study.

THE HISTORY OF TASTE — By Frank P. Chambers. (An account of the revolutions of art criticism and theory in Europe). Published by the Columbia University Press, New York. Price $4.25.

The above is a book not readily laid aside once started. It contains concisely and in a most readable form those gems of thought on art criticism for which one usually has to resort to several volumes and grow weary in the effort. There are ten chapters, commencing with "The Middle Ages" and ending with "Nineteenth Century Revivals" and "The Artist." The book is further elaborated with a conclusion appendix and an excellent bibliography. The illustrations are well done and the reviewer's only complaint is that they are too few.

PLANS FOR CITY POLICE JAILS AND VILLAGE LOCKUPS — By Hastings H. Hart. Published by Russell Sage Foundation, New York. No price.

Several well developed plans and details make this book of value to the architect interested in city planning and public buildings. Complete estimates are given and a set of specifications (original) of 1894 and (revised) for 1931 for the State of Minnesota. Police stations for medium sized municipalities and metropolitan areas are also elaborated with detailed plans.

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SAFETY RECORD SOUGHT

A new record for safety in building operations is promised at the Rockefeller Center as the result of organized effort to demonstrate how accidents can be minimized, according to a report of the Committee on Health and Safety of the American Institute of Architects, of which Samuel R. Bishop of New York is chairman.

"On this operation, the largest of its kind ever undertaken," the report says, "nothing is being left undone to reduce to a minimum the number of accidents. The operation is under close observation by safety engineers and inspectors, and all contractors and subcontractors are working to the end that a safety record shall be established which will show what can be accomplished through cooperative methods.

"Before commencing this operation the safety question was carefully analyzed and a program of procedure formulated. During one of the early conferences the owners' managing contractors declared that 'the best interests of all contractors on this important project demand that all reasonable means be used to prevent accidents to employes and to the public, and that it is necessary that a determined effort be made to keep the accident record as clear as possible.'

"The program calls for monthly meetings of the contractors' organizations and fortnightly meetings of the job foremen and the different safety organizations. The insurance company maintains an accident bureau on the site and its representatives are always present. Safety literature is distributed, buildings are placarded and small booklets containing general safety rules are issued to each man employed, and all workmen have strict orders to report to the surgeon's office immediately after accidents for examination in order that necessary first aid may be given if required.

"Three safety inspectors are employed by the steel erectors. Three inspectors represent the insurance company and one represents each general contractor. The number of employes on the operation averages from 1,700 to 2,000 daily.

"Unsatisfactory conditions found on the operation, such as the accumulation of debris on floors and stairs, unguarded floor openings, unprotected hoistways and elevator openings, bad lighting conditions, congestion of material, poorly built scaffolds, weak scaffolds and runways, and all other matters creating hazards are immediately reported, and it is the job superintendent's duty to give every such complaint immediate attention.

"This Committee regards the Rockefeller Center procedure as of great value to architects, and suggests the advisability of the American Institute of Architects becoming interested in the issu-

ance of a set of safety rules which can be inserted in every specification, or the publication of a contract document to be in a form similar to the 'General Conditions,' the standard contract document now used."

The Committee reported increased interest throughout the country among insurance companies, states, municipalities and contracting organizations in all matters affecting safety to workmen and to the public in new building construction.

"Records for the past year," the report continues, "show a decreased number of fatal accidents and a marked improvement in the observance and value of established safety regulations. These results, of course, may be attributable to many causes, not the least of these being the improved safety methods, devices and regulations employed by the larger contracting concerns, especially on extremely high buildings where the hazards are intensified."

Other members of the Institute's Committee on Health and Safety are: Richard W. Alger, Atlanta; Robert I. Ballinger, Philadelphia; A. B. Baumann, Jr., Knoxville; Theodore I. Coe., New York; Albert Farr, San Francisco; Carl F. Gould, Seattle; Carl E. Heimbrodt, Western Springs, Ill.; Loren O. Kirk, Minneapolis; Louis A. Walsh, Waterbury, Conn.

UNCLE SAM AND PRIVATE ARCHITECTS

It may not become a law this year, but Senate Bill 3586 introduced by Senator Wesley L. Jones last February is considered one of the most progressive bills referring to construction discussed during the current session of Congress. At the present time the bill is in the hands of the Committee on Public Buildings and Grounds.

The bill makes it mandatory that Federal structures costing more than $75,000 be designed by architects in private practice. Private architects may also be retained on buildings costing less than $75,000, in the discretion of the Secretary of the Treasury.

Following are highlights of the bill:

1 . . Architects residing in the locality in which any given building is to be erected will be given preference, whenever practicable.

2 . . Fee shall be 5% of the first $500,000 and 2½% above the first $500,000. Maximum fee on any one building, $200,000.

3 . . Selection of the architect is left to the judgment of the Secretary of the Treasury.

4 . . The bill would apply to buildings already authorized if no increase in the appropriation would result.

The full wording of the bill is as follows:

Be it enacted . . That in the designing, planning and construction of any public building hereafter authorized to be erected under the supervision of the Secretary of the Treasury, the Secretary is hereby authorized and directed, subject to the provisions of this Act, to employ the services of architects, engineers, sculptors, artists, consultants or other professional or technical talent, or firms, partnerships, corporations or associations thereof, on such terms as the Secretary shall decide, including the facilities, services, travel and other expenses of their respective organizations so far as employed on such buildings, in accordance with the usual customs of their several professions, without regard to the restrictions of law governing the employment and salaries of employees of the United States.

SEC. 2. The aggregate amount to be expended on any building for professional and technical services authorized hereunder shall not in any event exceed $200,000, or 5% of the first $500,000 of any building costing more than that sum and 2½% of the excess thereof above $500,000, or 5% of the cost of the building exclusive of site when the cost is $500,000 or less: *Provided*, That in awarding any fees hereunder the Secretary is authorized to consider any professional or technical work performed by employees of the United States, and shall award the said fees on the basis of services actually performed, with due regard to the usual custom of the particular profession when commercially engaged: *Provided further*, That no payments hereunder for or in reimbursement of expenses incurred for subsistence shall exceed the rates provided by law.

SEC. 3. That all professional or technical work authorized hereunder shall be subject to the supervision and control of the Supervising Architect of the Treasury under direction of the Secretary of the Treasury, and nothing in this act shall affect the authority and duties of the Supervising Architect of the Treasury with respect to sites, allotments of space, control of technical detail, execution of contracts and settlement therefor, the maintenance, operation, alteration, repair, or supervision of existing buildings, or any other duty which has been or may hereafter be assigned to him by law or by the Secretary of the Treasury: *Provided*, That in the discretion of the Secretary of the Treasury the provisions of this Act may be waived with respect to any proposed public building which shall be estimated to cost not more than $75,000.

SEC. 4. That no person shall be employed professionally or technically under the authority of this Act unless in the judgment of the Secretary of the Treasury he has the professional or technical skill, experience, and reputation requisite for the project involved; and the Secretary is authorized to select such professional or technical talent for any public buildings as in his judgment is best qualified for the undertaking without regard to competition and by such standards as he may determine, giving preference whenever practicable to professional and technical persons residing or maintaining regular offices in the locality or general section wherein such building is to be erected.

SEC. 5. Any expenditures made under authority of this Act shall be charged to the cost of construction of the building fro which the services are performed; and the Secretary of the Treasury is authorized, in his discretion, to employ professional or technical services hereunder for any public building now authorized or under construction if no increase in the appropriation for such building will result therefrom.

NEW BUILDING MATERIAL COMPANY

A new firm in the building industry, to be know as the Bates - Carpenter Company, has opened headquarters at the Building Material and Machinery Exhibit, 557 Market Street, San Francisco. Personnel of the company includes Walter D. Bates and A. R. Carpenter, both live wires in San Francisco building circles. Their activities, advancing the use and sale of high grade building materials, cover a period of many years. They are well and favorably known to the architects, general contractors and building material dealers in Northern California and Nevada.

The Bates-Carpenter Company are distributors for the Automatic Tension Screen Company of Los Angeles, said to operate the largest screen manufacturing plant in the country, besides several other well known building specialties.

Estimates will be furnished without obligation.

STEEL FLOOR CATALOG

A comprehensive and profusely illustrated catalog of the H. H. Robertson Company's Keystone beam steel floor, has just been issued by this firm from its Pittsburgh office. Much of the information contained in the catalog doubtless will prove of considerable value to both architects and engineers. Copies may be obtained from the San Francisco representative, H. E. Root, 50 Hawthorne Street.

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TO SAVE HISTORIC LANDMARKS

The American Institute of Architects has issued an appeal for nationwide aid in saving America's historic monuments from destruction. The immediate danger spot, according to the Institute, is Charleston, S. C., where priceless eighteenth century landmarks are threatened. A fraction of the fortunes yearly squandered on quickly forgotten paintings would conserve for all time structures providing inspiration for centuries to come, declared Robert D. Kohn, former president of the Institute.

Deploring adherence to merely "fashionable" art, and stressing Charleston's need for help, Mr. Kohn announced the appointment of a committee to devise measures of preservation. This committee, which will work in co-operation with a local Committee for the Safeguarding of Charleston Architecture, is composed as follows:

Franklin O. Adams, Tampa, Fla.; Fiske Kimball, Philadelphia; Alfred L. Kocher, New York; Dean Everett V. Meeks, Yale University; Horace W. Peaslee, Washington, D. C.; Albert Simons, Charleston. Mr. Kohn, long active in the work of protecting Old Charleston, is a member ex-officio.

"There are really splendid eighteenth century houses in Charleston which are in immediate danger of being wrecked or torn apart piecemeal," Mr. Kohn's statement asserted. "A lovely structure, the Manigault House, is already neighbored by a brand new and shining gasoline filling station in the best modernistic red, white and blue gasoline style. A visitor to this section is torn between the desire to cry and curse.

"Are we as a people insensitive to worthwhile things? We need money to buy food and shelter, but must we become iconoclasts? In one part of Charleston fortunately this sort of thing will probably be avoided in the future, for the city has adopted a remarkable, indeed a unique, feature in its new zoning and districting law. In the 'historic section' of Charleston no one may now alter or add to the exterior of a building without having the design for such a change passed on by the Zoning Commission.

"But quite aside from doing what it can do to protect what is there, Charleston deserves help from the outside to maintain some of its fine old structures for this and future generations to see and admire. They cannot do it all alone. There is too much to do. A few years ago the splendid Heyward House, which had been altered into a bake shop, was saved from a worse fate by the joint efforts of Charleston citizens and a few generous outsiders.

"It was saved, but is not yet safe! Its original facade restored and those two rooms which had

been changed altered back again, the Heyward House is a sort of Museum, but unfortunately there is still a mortgage of $16,000 hanging over its head. The income from visitors is insufficient to meet the interest and maintenance charges. If the mortgage could only be paid off the rest would be easy because the building would be managed for the future by the Museum of Charleston.

"It is hardly necessary to tell those who have been down there that certain parts of Charleston have a most delightful atmosphere of mid-eighteenth century. Sections of the city of this period still remain almost entirely untouched by modern structures.

"For some time now Charleston has attracted people of means from the north. Some have purchased fine old houses, restored them with care and now use them for autumn, winter and spring residences. But, alas, other 'foreigners' are buying parts of houses, rooms, railings mantels or stairs and shipping them away to be set up in houses or museums.

"Perhaps this is excusable where the houses are likely to be wrecked anyhow for one reason or another. But it is bad for Charleston in any case. Sometimes these architectural fragments are re-erected elsewhere in entirely incongruous surroundings.

"Appeal may justly be made in such a cause to the country at large. We are not pleading for the sake of Charleston, but because the whole country would be the loser if these buildings were destroyed. Hundreds of thousands are spent annually for paintings, only to have them buried with thousands of other pictures in those catacombs of all arts—our over-large museums. Sometimes these are good pictures and are so exhibited that a discerning person can get something out of them.

"But over a hundred thousand dollars was paid recently for a picture now hanging in one of our greatest museums, an entirely ephemeral art of a pet artist recently deceased, which picture, I dare to predict, will not be looked at by any discriminating person twenty years hence. The price paid by the Museum for this one picture is one that would conserve for all time two or three Charleston houses and their gardens, if we adopt some such scheme as that of the Monuments Historique of France. But we must do it ourselves; as individuals we must help. We must not expect a government to do it.

"And unlike the 'fashionable' art products of our day, these Charleston houses would be an inspiration for centuries to come for those who care for evidences of that most gracious period in our culture which reflects itself in our early American architecture. Charleston has done its share in the

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"The rest of the country must now join with it. Here is a chance for even the modestly well-to-do. A few thousand will do so much. The American Institute of Architects hopes to be the medium for spreading information throughout the country as to what can be done. It will gladly recommend particular objectives for financial help. For that reason, too, a small exhibition of photographs of two or three Charleston buildings now in danger is hung in The Octagon, the headquarters of the Institute in Washington (built in 1798), and open to visitors in this Washington Bicentenary year."

In the United States, Mr. Kohn pointed out, the Government does not foster the perpetuation of historic monuments as other countries do.

"In France," he continued, "the National Government long since established a class of buildings known as historic monuments. Once a building is so designated by the Commission on Historic Monuments, the owners may not change it without consent of the Government. The Government in return makes itself responsible for keeping the building in reasonable repair.

"In Belgium a notable case of such Government concern in its early architecture is that of the buildings facing the Grande Place in Brussels. The owners of the many private buildings facing three sides of this square, the fourth being occupied by the City Hall, may do anything they please with the inside of the structures, but the exteriors may not be altered, and the Government makes itself responsible for their maintenance, even replacing gold leaf on the many carved ornaments.

"In this country we cannot even imagine the Federal Government showing such an interest in architectural monuments. In various localities historical societies have secured fine old buildings, either by gift or purchase, and are maintaining them. An admirable job of this kind is being done, for instance, by the Society for the Preservation of New England Antiquities with its dozen or more properties. Much has been written about the Wayside Inn purchased by Mr. Ford to be preserved as a museum of its period.

"With the assistance of its architects, New Orleans has done much to preserve one of its notable squares and certain of its historic buildings in the French quarter. A few years ago the Institute of Architects was made the custodian of a fine old plantation house and its grounds bordering the Mississippi in Louisiana. Charleston, S. C., is the place which right now needs most the help of the public."

MECHANICALLY COOLED HOMES

Mechanical cooling of more than 20 per cent of American homes in the next five years was predicted recently by C. H. Landwehr, president of the Holland Furnace Company, on the basis of rapid strides being made by the air-conditioning industry.

"Public demand for air-conditioning, which includes summer cooling, has been growing at a tremendous rate during the past year," said Mr. Landwehr, "and a virtually new industry of gigantic proportions is being developed to meet this demand.

"Recent announcements by the B. & O., the Pennsylvania and other leading railroads that their sleeping and dining cars are to be mechanically cooled for summer travel indicate recognition of this growing public demand. Air-conditioned theaters, department stores, factories, and assembly halls first served to introduce the idea of summer cooling to the public and now air-conditioned homes are demanded. The new industry should surpass mechanical refrigeration in size in the next few years."

Difficulties of manufacturing air-conditioning apparatus in units small and inexpensive enough for residential purposes have only recently been overcome, Mr. Landwehr explained, and now even the smallest bungalow can enjoy summer cooling, heretofore restricted to public buildings.

"Just as railroads find it good business to condition the air of their cars, so home owners are finding it highly desirable to condition the air in their homes, where the majority of people spend from 35 to 85 per cent of their time," he pointed out. "Not only from the standpoint of comfort, but from the standpoint of health, the new development is of far-reaching importance to the American public and, from investigations which our company has made, we feel safe in predicting that more than 20 per cent of American homes will be mechanically cooled during the next five years. Certainly 75 per cent of all new homes will incorporate air-conditioning equipment.

Complete air-conditioning, Mr. Landwehr explained, consists of summer cooling, winter heating, year 'round humidity control, year 'round air motion, and year 'round filtering and washing of the air. Equipment which performs all of these functions in a five-room bungalow just as effectively as in a large department store or theater is now available, he said.

WATSONVILLE RESIDENCE

William W. Wurster, architect, 260 California Street, San Francisco, has completed plans for an $8500 brick veneer home in Watsonville for W. N. Cumming.

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RAISE HOUSING STANDARD

In the provision of suitable housing for the wage earners of American cities and industrial villages, and in the abolition of slums, lies a potential market for business compared to which the market for low-priced automobiles is insignificant, according to volume III of the final reports of the President's Conference on Home Building and Home Ownership. This volume, entitled "Slums, Large-Scale Housing, and Decentralization," contains that part of the complete program to raise Washington last December, which deals with the reform of past errors in housing. The reports of four of the thirty-one Conference Committees are included, namely those on Blighted Areas and Slums, Large-Scale Operations, Business and Housing, and Industrial Decentralization and Housing.

The business and professional men who made up these committees condemn slums as economic burdens. "Slums cost money. They are the most expensive form of housing known, and it is the community that pays for them." Thus the matter is phrased in an introduction by the editors, Dr. John M. Gries and Dr. James Ford. "It is no gesture of charity to better the standards of housing of our poorer neighbors, for we all pay cash —in taxes for utilities and for police and fire protection, in the high cost of fire insurance, in the the standard of American housing, formulated by the President's Conference at its meeting in depreciation of adjoining property values, and in social welfare work—for low standards of housing in any part of the community. However great the cost of wiping out slums, it is not so great as the cost of maintaining them."

But business can earn money as well as save it by eliminating slums, in the opinion of the authors of this volume. The millions of Americans who live in slums, blighted areas, and substandard dwellings represent an immense consuming power for adequate housing within their means. The product of the small-scale construction methods of the present day costs too much, but the Committee on Large-Scale Operations believes that the application to housing of the technique and energy that have produced skyscrapers and modern factories would reduce the cost of dwellings sufficiently to house at least another 10 per cent of the population suitably.

It is pointed out, however, that the production of less-expensive housing will not alone solve the entire problem, for existing slum buildings must first be demolished and parcels of land extensive enough to permit large-scale construction must be obtained. These requirements will often involve expenditures and legal difficulties too great for

private business unaided to undertake or solve. The solution suggested, therefore, is a partnership between private business and municipalities. Such a partnership is now facing court approval in Newark, New Jersey, where the Prudential Life Insurance Company has bought up an entire block of tenements. It proposes to sell back to the city the interior of the block to be made into a public park, while itself building good quality dwellings around the outer edge of the block. In New York, governmental cooperation has consisted in tax exemption for a period of years to limited dividend companies that build dwellings to rent for sums not exceeding a modest amount per room.

The alternative to private enterprise in the solution of the slum problem suggested in this volume is government subsidy to housing. Secretary Wilbur, of the Department of the Interior, in a foreword, says: "Unless business men and business groups accept the challenge, housing by public authority is inevitable." The volume points out that slums and blighted areas are increasing rather than decreasing. The magnitude and nature of the social menace involved is suggested by the statement that the votes that keep in power corrupt municipal governments are the slum votes. "It is inconceivable," say the editors, "that either the growing social conscience of America or its increasing economic insight should continue to support the economic and social burden of the slum."

As evidence of the burden imposed on industry by bad housing of its employees, the Committee on Industrial Decentralization and Housing points out that business suffers, on the one hand, from the unhealthy conditions caused by overcrowding, and on the other, from the fatigue and loss of money and time incidental to commuting. This committee and that on Business and Housing place a heavy share of responsibility for housing on the shoulders of business. "Industry must look into the future and assume its proper responsibilities for social and economic well-being, not only for the common good but for its own security and continued growth. Study and observation point to the conclusion that the social order will be best served by a deconcentration of population, to which industry holds the key."

The committee urges reform in the railroad rate structure as a major step to bring about decentralization of industry. So far the rate structure has been such as strongly to influence industry to locate in large centers.

The four reports in this volume illustrate the complex nature of the housing problem and reveal the need for organized and intelligent activity by

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all the forces in the community, both to prevent the development of new slums and to reform old ones. They make clear what direction that activity should take, and belong, therefore, in the working libraries of all municipal governments and of all organizations and individuals concerned with the housing of the wage-earner.

The first two volumes of the final reports of the President's Conference on Home Building and Home Ownership deal with "Planning for Residential Districts", and "Home Finance and Taxation". Eight more volumes will appear in the course of the next few months. The volumes can be purchased for $1.15 each postpaid, from Dr. John M. Gries, Executive Secretary, President's Conference on Home Building and Home Ownership, Department of Commerce Building, Washington, D. C.

THOMAS HAVERTY

Thomas Haverty, founder and president of one of the largest plumbing and heating concerns in the West, the Thomas Haverty Company of Los Angeles, died at St. Vincent's hospital June 9, following a second operation for a malady with which he had been afflicted for more than a year. Mr. Haverty was born in Ireland, December 15, 1863, and when nine years of age his parents came to America, settling in Denver. In 1892 he went to Los Angeles and soon thereafter engaged in the plumbing and heating business. From the beginning the establishment prospered and the business grew to large proportions.

BUILDING EXPERTS POOL

Pooling their experience in the building and construction field, hundreds of America's foremost engineers, architects, builders, contractors, and housing authorities have cooperated with the National Committee on Wood Utilization of the Department of Commerce in the preparation of a series of authoritative and practical handbooks on home construction and home furnishings.

This information is treated from the point of view of the prospective home buyer, the carpenter, and architect, builder and engineer. The books point to short cuts to economy without the sacrifice of good construction. They demonstrate how home comforts may be increased, and how our homes may be made more livable and more economical to operate.

"How to Judge a House", prepared by a special committee under the chairmanship of N. Max Dunning, Fellow, American Institute of Architects, tells the prospective home owner how to properly appraise the salient features of home construction and design.

"House Insulation: Its Economies and Application", sponsored by a subcommittee under the leadership of LeRoy E. Kern, nationally-known

architect, gives pertinent facts in regard to the application of insulating materials, a great factor in economy and comfort.

"Furniture: Its Selection and Use", in which more than a dozen leading authorities cooperated under the chairmanship of Alexander B. Trowbridge, prominent Washington architect, points the way to a wise selection of furniture and its proper upkeep and repair.

"The best book ever issued on the subject," is the verdict of the United Brotherhood of Carpenters and Joiners of America, in commenting on the Committee's publication "Light Frame House Construction," which is a carpenter's handbook, published jointly with the Federal Board for Vocational Education.

For the engineer and the architect there is a manual entitled "Wood Construction," unique in character because it was prepared by a dozen of the country's foremost authorities on this subject.

All in all, the prospective home owner, the carpenter, the builder, the architect, and the engineer now have the necessary information in regard to the important subject of home construction, the most vital factor in making the wheels of industry go round.

BUILDING OFFICIALS CONFERENCES

There will be no general meeting of the Pacific Coast Building Officials' Conference this year. Instead there will be three two-day district meetings, at Long Beach, Oakland and Tacoma, respectively.

"The dates and locations for these district meetings are as follows:

"Southern District—Long Beach, Calif., August 15 and 16, in new Municipal Auditorium, presided over by District Chairman C. D. Wailes, Jr., of Long Beach, president of the Conference.

"Central District—Oakland, Calif., August 18 and 19, with District Chairman W. A. Curtis of Stockton, Calif., vice-president of the Conference, presiding. (Meeting place to be announced later.)

"Northern District — Tacoma, Wash., August 22 and 23, presided over by District Chairman Arthur J. Bird of Vancouver, B. C., vice-president of the Conference. (Meeting place to be announced later.)

RESIDENCE ALTERATIONS

Chester H. Treichel, architect, 679 Hadden Road, Oakland, has prepared plans for altering a two story frame residence into apartments. The house is on El Camino Real, Burlingame, and the owner is William T. Seawell, of Burlingame.

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OUR ECONOMIC RECOVERY

The adoption of methods through which to further the economic stability of the Nation and to effectually relieve unemployment, were the topics discussed at the June 5th, Rapidan conference between President Hoover, Governor Meyer of the Federal Reserve Board and Directors of the Reconstruction Finance Corporation.

First on the list of conclusions of "immediate policies necessary to speed economic recovery" is the necessity for the extension of authority of the Reconstruction Finance Corporation to increase its issuance of securities to the maximum, so as to be in a position, among other things, "to buy bonds from political sub-divisions or public bodies so as to start construction of income-producing or self-liquidating projects, which will at once increase employment", according to the Associated Press dispatch.

"There can be no question of the statement that general highway construction comes under both of these stipulations", asserts Daniel B. Miller, Managing Engineer, Pacific Coast Division, The Asphalt Institute. "The construction of highways has resulted directly in the production of many millions of dollars in income through collection of gasoline tax and motor vehicle fees. This income has not only liquidated original costs but it has provided abundant funds for increased road construction. The building of these roads has been the impetus, which has made possible the employment of thousands of men in the manufacture of motor trucks and automobiles".

"One of the most important tasks of highway engineers is the accomplishment of the extension and improvement of our secondary road system. Certainly traffic requirements on our main highways must be provided for but decreased transportation costs and increased marketing facilities for the producers of our raw foodstuffs are paramount. So it will be seen that immediate attention to this phase of highway work will be in keeping with the conclusion of the conference, in which is strongly declared the necessity of stimulating employment and stiffening the whole agricultural system".

In providing farmers with roads which are usable during the entire year, a new market for trucks will be created, which will enable the manufacturer to re-employ many men. At present approximately one million of the six and one-quarter million farmers of the Nation have trucking facilities.

Thos. H. MacDonald, Chief of the U. S. Bureau of Public Roads, in a recent address before the American Road Builders Association, said that "the cost of road building is now 45% below 1924 costs".

A combination of the facts prove beyond doubt that the present unemployment situation can be forced into the realm of past history through the adoption of a judicious program of highway development.

ENGLISH ARCHITECT COMING

Clough Williams-Ellis, F. R. I. B. A., one of England's most widely-known architects, will be in the United States to give a series of lectures at educational institutions this fall, it is announced by the Institute of International Education (New York) which is arranging his speaking tour.

Mr. Williams-Ellis is president of the British Design and Industry Association, and has for several years been a leading figure in movements against urban and rural ugliness and discomfort. He has waged an aggressive campaign for the preservation of the beauty of rural England and has written numerous articles and books on the importance of modern architectural planning and design in its effect upon society. His most notable book is "England and the Octopus."

The American lectures of the architect will discuss the function of architecture and the importance of design in civilization.

EXHIBIT RESIDENCE WORK

Five Seattle architects, James M. Taylor Jr., Basil Jerard, Lawrence Hauser, Donald J. Stewart and Nicholas J. Kabush, held an exhibit of residential design recently on the fourth floor of the Frederick and Nelson Department Store, Seattle. The display consisted of preliminary sketches of small residences, some of which were further explained, either by working drawings or small models. The main idea of the exhibit was to demonstrate the possibility of combining a good economical plan with a pleasant appearance even in the smallest type of dwelling.

VALLEJO HIGH SCHOOL

Working drawings are being completed by Frederick H. Reimers of San Francisco and Davis-Pearce Company, Stockton, for a group of junior high school buildings at Vallejo. Bonds amounting to $230,000 have been voted and sold.

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The Kraft-Phoenix Cheese Corporation is building a one story factory addition to its plant on Battery Street, San Francisco. The work will cost $20,000.

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ARCHITECTS MOVE

Seattle is no exception to the rule. Architects in every city on the Pacific Coast have had the moving bee due largely to economic conditions. The last issue of *Pacific Builder and Engineer* reports 19 Seattle architects who have changed their office locations in an effort to reduce expenses.

William G. Brust, has moved from the Republic Building to 315 North 50th Street.

J. Lister Holmes has moved from the Liggett Building to 503 Republic Building. Mr. Holmes is president of the Washington State Chapter.

William J. Bain and Lionel H. Pries, Seattle, have given up their joint office in the Liggett Building. Mr. Bain is at the Waverly Apartments, 1715 Yale Ave., and Mr. Pries is teaching at the University of Washington.

James M. Taylor, Jr., formerly located in the McDowall Building, is now doing his work at home, 2042 Boylston Ave. N.

Joseph L. Skoog, who previously had office space in the Ivey Studio, 1416 Olive Way, is making appointments from his home at 1115 Lakeview Boulevard.

Charles Hay, who used to make his headquarters in the Priteca studio in the Pantages Building, is watching developments from his home, 2518 Fourth Ave., N., on Queen Anne Hill.

Oscar F. Nelson is spending most of his time at his home in Lake Forest Park.

Arthur L. Dysart keeps his mov-

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ing limited to the Smith Tower. He is now located on the 22nd floor.

Floyd A. Naramore, the designer of many Seattle public school buildings, has an office in the Shack-Young suite in the Central Building.

J. Charles Stanley has left the Republic Building and is located in the Cascadia Apartments, 16th Ave. and Madison Street.

Gerald C. Field, formerly located in the Lloyd Building, is keeping his weather eye open at his residence, 2319 Boyer Avenue.

E. Glen Morgan, formerly renting space in the Dexter Horton Building, and temporarily located in the Rust Building, Tacoma, now starts his reconnoitering trips from his home at 2411 Westview Drive, Carleton Park.

Joseph Cote, who used to be a denizen of the Lyon Building, has a call office at 1109 Northern Life Tower, but spends most of his time at Kennydale.

William H. Whiteley, until recently working in his office in the White-Henry-Stuart Building, has decided to enjoy outdoor life until there is more work for the drafting boards.

E. C. Rising is making his headquarters at his home, 5033 17th Ave., N. E., for the present.

Harold H. Ginnold, Seattle, who occupied Howard Riley's former office in the Arcade Building for some months, has gone to California on a temporary assignment.

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Clare Moffitt, who kept his drawing board in the Seaboard Building for quite a while, now does his work in a residence studio at 4521 10th Avenue, N. E.

ENTERS OIL BURNER FIELD

General Electric and General Motors have entered the domestic oil heating field.

The entrance of these two companies marks a distinct epoch in the oil heating industry and, according to leading executives will be beneficial to all concerned, including the established oil burner producers.

The General Electric program involves the eventual introduction of a complete line of air conditioning and heating equipment, ot which a complete oil furnace, including boiler, burner and all related equipment, is but one element. This furnace, according to advance announcements, departs radically from any equipment heretofore produced and employs a totally new method of burning oil. The furnace itself is oval in cross section, with the burner mechanism mounted at the top projecting the flame downward into the combustion chamber.

Other elements in the General Electric program include a humidifying and filtering device, a complete line of temperature controls, heat regulators and air conditioning equipment for new buildings, an automatic gas burner and a coal stoker.

J. J. Donovan, formerly located at Schnectady, has been appointed manager of the company's new air conditioning department.

"Eventually," according to Mr. Donovan, "we expect to have a system developed which will heat and humidify the home in the winter and cool and dehumidify in the summer, and provide air circulation and purification the year round. We plan to provide complete air conditioning making use of every type of fuel."

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WOMAN'S INFLUENCE IN APARTMENT HOUSE DESIGN

By S. R. FIRESTONE*

WHAT does a woman look for in renting an apartment? There isn't any answer that fits that question, because it depends on the woman. A woman has no formula in mind when in search for a home. In this situation, it is not "a bargain" that she seeks until other requirements have been met.

It has been my experience that a woman is most unselfish when considering the choice of an apartment. She has in mind her children first (if she has any), her husband, her servants and herself last.

Children

1. She has in mind the proximity to a park for the sunning of the baby.

2. Or a quiet, light, airy and sunny bedroom for the child, separated from the entertainment portion.

3. The proximity to a private or public school, if the child is of school age.

4. The address and entertainment possibilities of the apartment if the daughter is of coming-out age.

Motherly devotion to her children comes first.

Husband

1. She next considers the advantage or disadvantage of the location as it affects her husband's interests.

2. Are proper transportation facilities nearby for the convenience of her husband's daily trips to the office?

3. Is there a shower in the apartment which he would want above all else?

4. Is there a den or library where friend husband can hie himself when he has work or conferences at home?

5. Is there cross ventilation in the chamber?

*Based on address delivered before the Management Division of The Real Estate Board of New York, and reprinted from *Buildings and Building Management*.

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6. Is the rent sufficiently low that it won't be a burden or a menace to his peace of mind?

Many a woman compromises her demands of an apartment, because she realizes the limitations exacted by the rent budget. She does so with good grace, and then proceeds to get the best possible value for the rental she can afford.

I have met many cases where the wife refused to spend the amount her husband allowed for rent and many cases, especially recently, where the wife insisted that their apartment be sublet and a cheaper apartment be secured in order to lighten the husband's financial burden. This happened in several cases where it wasn't an absolute necessity.

Servants

1. Many a woman has protested against the usual plan of placing the servants' quarters in the darkest space of the building.

2. Many women won't rent an apartment unless the butler's pantry has a window in it.

3. The small bathrooms and bathtubs are other thorns in her side.

4. Consideration of her servants' comforts and living conditions have prompted many a woman to pass up apartments which otherwise met her every requirement.

Especially is this true where servants have been in the family for many years. Only last month, one of our clients who was considering a large Fifth Avenue apartment, sent her servants to inspect the apartment, and rented it only after the servants had approved of their quarters.

A conclusion I have drawn is that a woman when looking for an apartment tries to avoid the discomforts, annoyances and irritations experienced in previous apartments. If she has occupied an apartment with small and too few closets, she is bound to have this fact uppermost in her mind and an apartment with large closets and many of them, will appeal to her. Another woman might

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have a light, large and well ventilated kitchen uppermost in mind. Still another might be thinking of the arrangement of the entertaining portion of the apartment; another of transportation facilities; another of the size of rooms; another of an arrangement of rooms peculiar to her own requirements; another of her neighbors; another of larger rooms; another of light and air. If she has lived in a building where the daily removal of the ashes has been an early morning occurrence, she tries to avoid apartments near the service entrance. If she has occupied an apartment on a noisy avenue, she will search through the side streets. If she has had difficulty with the supply of heat or hot water, she inquires about these points. If she has suffered undesirable neighbors, she is doubly careful in her selection of another building. If she has been living in a private house, she may want a duplex because she has been accustomed to going upstairs to bed. On the other hand, if she has tired of running up and down stairs, she may insist on a simplex only.

The convenience or inconvenience of shopping districts influences the choice of some women. A woman who has had her apartment burglarized by access from a fire-escape, or from the roof of an adjoining building, is careful not to duplicate this risk. Factors which distressed her in the occupancy of previous apartments, influence her in her future choice.

A woman takes a great deal of pride in her home and almost as much in the entrance hall of the building. If she has lived in a building where the entrance hall has been unattractive, or where the superintendent or his staff have been incompetent or discourteous, or where the management has been neglectful of her reasonable requests, she is bound to make careful inquiries about the service. The appearance and attractiveness of the entrance hall, the attentiveness of the doorman and elevator man, as well as the

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presence and attitude of the superintendent who shows the apartment, will win or alienate a woman's interest in a building. She wishes friends who visit her to receive proper attention from the moment the car arrives at the curb. Women who have experienced poor service, will restrict their selection to buildings managed by well known management concerns with established reputations.

A young woman, recently married, will want a short lease, so that she will be in a position to move into a larger apartment on the arrival of an addition to the family. An elderly woman will usually want an apartment on one of the lower floors so that she may be able to gaze out on the street activity. In many cases, this insistence on a low floor is due to the fear of fire risk. Some elderly women want a rear apartment or one one high up in a building to obtain quiet and to avoid noises to which their age is very sensitive.

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THE ARCHITECT AND ENGINEER

AUGUST 1932

Obsolescence Insurance protects your building against Time and Wear and Tea

WHICH BUILDING SHALL WE WORK ON NEXT?

TIME AND WEAR AND TEAR—they're the insidious fellows who undermine your building and rob it of its youth. They come *inside your stronghold* and work away at fixtures and finishes and operating units. Unless the work of their guilty hands is remedied, your building will one day surrender to them. It will lose its attractiveness and its earning power.

Counteract the work of these three destructive forces with *Obsolescence Insurance*. Lay aside a regular amount from the earnings of your building for just this. Have it gone over in rigid inspection once each year. From this inspection, you can determine just how your *Obsolescence Insurance* fund can best be spent.

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We shall be glad to describe these two Otis services more in detail. You need not feel obligated to us because of it. Just call your Otis office. *Otis Elevator Company . . . offices in all principal cities.*

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Thumb Tacks and T-Square

Approaching its 28th anniversary, THE ARCHITECT AND ENGINEER *is deservedly proud of the fact that in spite of the earthquake and fire of 1906 and the trying times of today, the magazine has pushed ever forward. It has yet to fail its subscribers with an issue.*

⁂ ⁂ ⁂

RECENT Pacific Coast Federal building awards to eastern contractors have raised the question: Why not regulate these awards according to locality? In other words, permit only contractors within a certain radius of the city where the building is to be built to figure the plans. A California building could be bid on only by contractors in this state, Oregon, Washington and Nevada. Why award contracts for Pacific Coast buildings to some obscure firm doing business in the middle west or New England states? It's getting to be too common a thing—this letting work to Eastern concerns, as attested by the recent contracts on the Sacramento Post Office building, the Merced Post Office building and the Reno Federal building. In Long View, Washington, a contract for a new post office building there has just been awarded to a St. Louis firm. Meanwhile there are several hundred Pacific Coast contracting firms with men idle and equipment becoming obsolete.

⁂ ⁂ ⁂

ACCORDING to a recent report of the Census Bureau, U. S. Department of Commerce, the preliminary count of the 1930 census returns, shows a total of 22,000 architects practicing the profession in the United States of whom 21,621 are males and 379 females.

We wonder how many of these 20,000 or more architects have managed to keep out of the red the past twelve months.

⁂ ⁂ ⁂

ARCHITECTS who have had experience designing Federal buildings say the office of the Supervising Architect in Washington sees to it that they earn their commission. With frequent trips across the continent and endless changes in plans and specifications, there is little, if any, profit for the architect; at least on buildings that cost under $150,000.

Less than 6 per cent for plans and specifications on any building, unless it be a warehouse, leaves the architect with very little margin, according to those who have had experience.

⁂ ⁂ ⁂

VISITORS to the recent Shrine convention in San Francisco were loud in their praise of the Civic Center buildings. The new Opera House and Veterans Memorial Building are the crowning gems to a very beautiful architectural ensemble.

⁂ ⁂ ⁂

A novel motion-picture theater has recently been completed in Zurich, Switzerland, according to a report by G. Edith Bland, the American consulate general. It has a seating capacity of 1440, with no balconies, the main floor sloping up to 14 boxes in the rear of the theater. All the seats are folding armchairs, steel framed, upholstered, and with tilting back; 20 seats have head phones for spectators who have difficulty in hearing.

Mechanical ventilation is of the most modern type. In addition, a sunshine roof, the first in Switzerland, having a surface approximately 50 by 30 feet, can be opened automatically to ventilate the auditorium during intermission or can be left open entirely on warm nights. Part of the illuminating system is incorporated in the design of this sliding roof.

The new theater occupies the ground floor of a six-story building called "Zett House," containing a restaurant, offices, apartments and basement garages in addition to the theater. The design of the building is an experiment in a new method of combining reinforced concrete and steel, so that the whole structure is supported by four slender columns and no weight is carried by the walls. The building cost approximately $483,000.

⁂ ⁂ ⁂

THE *Scarboro Evening Post* reports that E. B. Royden, of Bidston Court, was so much attached to his home to think of leaving it as the industrial area extended in its neighborhood. So he decided to move the house bodily to a place where the country was still country. The new site chosen was at Frankby, on a hillside above the River Dee. A firm of builders undertook to take the house to pieces and re-erect it on the new site. To enable them to do this with every detail correct the camera was called in, and more than a hundred photographs were made. The house was moved in large portions at a time. Each of the wonderful Tudor chimneys, for instance, was taken down complete and removed just as it stood. Thanks to the camera's help, Bidston Court now stands proudly on its new site, looking exactly as it did before. The work of removal took more than three years.

⁂ ⁂ ⁂

WILL J. FRENCH, Director of the California State Department of Industrial Relations, in his monthly report to the Governor's Council, tells of a unique relief plan under study in the State of New South Wales. "In Australia and New Zealand, both bountifully-contained countries and sparsely peopled," he says "the depression is acute and large numbers of men are under government care. In Sydney, Australia, Canon Robert B. S. Hammond leads in several worth-while activities. He has opened hotels for the unemployed, and strives to find work for them. A plea has been made for a piece of government land, so that a family can have one acre. A specially-constructed, 3-room portable pioneer home, each room 10x10, made of galvanized iron, weighing half a ton, costing about $150, and as easily erected as a tent, is proposed for each family. A further expenditure of approximately $100 will provide fencing, tools, etc."

Canon Hammond announces seven reasons why he believes the scheme will appeal to those who realize something must be done for the unemployed:

(1) That a man at least has the chance of working for himself;

(2) Of supplementing the dole with the vegetables and the poultry he raises.

(3) It gets these families out of dwellings for which they are only getting deeper into debt for rent;

(4) It safeguards them from the real and constant fear of eviction and the equally real humiliation of being in debt;

(5) It frees the house owners from the problem of non-paying tenants and gives them a chance to re-let;

(6) The money invested in this scheme will be productive in finding work, growing foodstuffs, and keeping out of debt;

(7) When these 500 families are established in this way, it is equal to at least $2500 a week continuously in rent.

It looks as though our friends of the Antipodes had read a line from Cingalese Logic: "The poverty of the poor shall be at an end when they learn to minister to the wants of each other."

⁂ ⁂ ⁂

THE reader's attention is directed to the advertisement appearing on the third cover page of this issue, announcing the availability of a cost chart showing the fluctuations in building material and labor costs for the past seven years. The compilation of this chart was brought about by numerous requests from our readers for just this type of information. A similar survey conducted in the East by the New York Building Congress shows a drop of 35 per cent in building prices since 1925, the peak year in costs.

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This Issue

Cover Design — TENTH CENTURY MOORISH TOWER, Island of Mallorca, from a photo by *Edwin Lewis Snyder*

Frontispiece — PATIO OF CAN CAZAN, Ponte Inca, Mallorca, Spain
Photo by *Edwin Lewis Snyder*

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Edwin Lewis Snyder, Architect

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(Five sketches and plot plan)

Next Month

Recent work of Martin L. Rist, (formerly Coffey & Rist), with an interesting Foreword by Julian C. Mesick. Mr. Rist's work includes the new Southern Pacific Hospital, a branch police station, several schools, hospitals, polo stable and residences.

The new St. Ann's Church, designed by the late Will D. Shea, will be pictured and described as an outstanding achievement in exposed concrete. Homer M. Hadley, prominent structural engineer, writes of his impressions of the edifice from the standpoint of his profession.

Chet Ninekirk writes of the modern swimming pool and the latest method of sterilizing. The Del Monte and Santa Barbara Biltmore pools are illustrated.

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Photo by Edwin Lewis Snyder

PATIO OF CAN CAZAN, PONTE INCA, MALLORCA, SPAIN

THE
ARCHITECT
AND ENGINEER

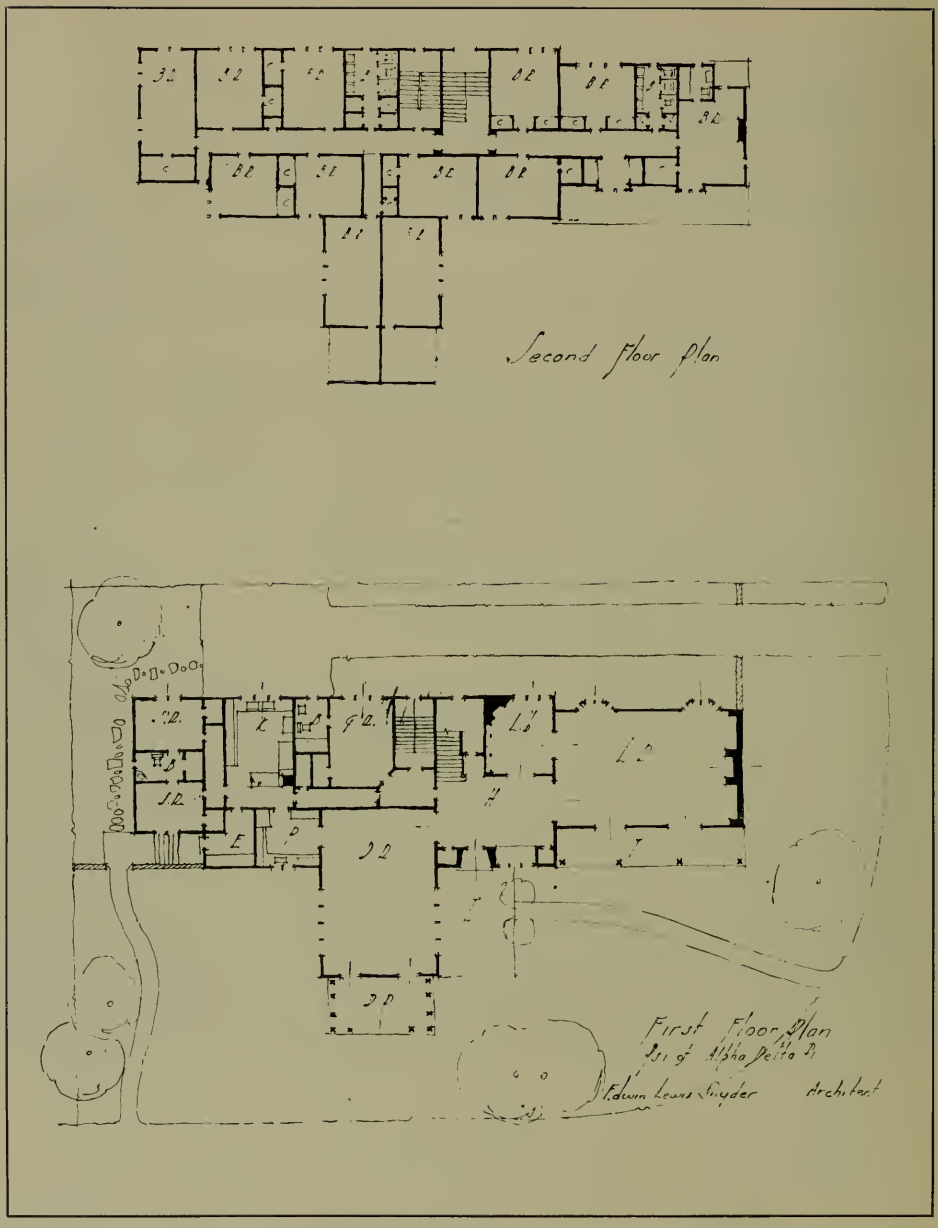
AUGUST 1932
VOLUME 110
NUMBER TWO

A NEW SORORITY HOUSE IN BERKELEY

by
STANFORD L. JORY

CHAPTER HOUSE FOR ALPHA DELTA PI SORORITY, BERKELEY
EDWIN LEWIS SNYDER, ARCHITECT

ARCHITECTS in this generation have been fortunate in experiencing what is possibly one of the greatest dramatic periods of building. Beginning as most periods do with a limited structural knowledge and a decorative expression of questionable taste, it has grown through new forms of structure, new developments of materials and greater efficiency of construction to a corresponding improvement



PLANS, CHAPTER HOUSE FOR ALPHA BETA PI SORORITY, BERKELEY, CALIFORNIA

EDWIN LEWIS SNYDER, ARCHITECT

in architectural expression. Today still further liberties, both in structure and more particularly in design, lead us to the unknown architecture of the future.

Whether this period of architecture will be known as great or merely prolific will be left for future individuals to decide. We know it is at least building up an ever increasing number of efficient workers who are actively striving to realize their expression of an ideal architecture. While it is difficult for any generation to point out just what is its best architecture, we know that all architecture of previous ages that is now recognized as good has obeyed certain logical fundamentals — a very simple one being that the load in a wall increases as you near its footing. When architecture violates such simple expressions one is very apt properly to classify it as vicious. Excuses are offered, in commercial work for the solidity of upper floors being apparently supported by glass on the first floor for the reason that economic forces control such activities. However, when similar obvious violations of architectural principles appear in public work where logical and decorative expressions are especially important because of their influence on our lives, then indeed, we have created a tragedy of far reaching influence.

When one interested in architecture views new work done and finds that it readily passes the large criticism of architectural right and wrong, he still is affected in his appreciation by his own inhibitions and sympathies. For instance he may not warm to a structure architecturally sound and purely intellectual but may desire a more romantic quality. The one may be the cold correct presentation of the traditional book scholar—the other the expression of an artist's outgiving of joy in creative work, and as you are so will you respond.

Well this is all to say I enjoy Mr. Snyder's Alpha Delta Pi Sorority house. It has the character that its architect must have desired it to have—that of a sorority house with the expression of a home and all that that connotes; a large happy family with many, many children, as we measure families today—all studious, all bringing in their bit of life's daily experience.

DETAIL, PSI CHAPTER, ALPHA DELTA PI SORORITY, BERKELEY

LIVING ROOM GABLE, PSI CHAPTER, ALPHA DELTA PI SORORITY

LIVING ROOM, PSI CHAPTER, ALPHA DELTA PI SORORITY, BERKELEY
Edwin Lewis Snyder, Architect

They play, work and at times entertain on a generous scale. They form a happy community-building group most of whom we hope will live here at least the usual four years and then, having been impressed, maybe unconsciously, with the spirit of their surroundings, they will go forth to their work in the world.

Mr. Snyder's sympathies, or perhaps his client's suggestions, were evidently for an English type of house, possibly because of a desire to associate the ideal of family life which developed in the freeman's home of England in contrast to the castle or protected home of the continental family. And so we have this pleasant place of stucco, brick, and half-timber which is shown in the accompanying photographs. The textured stucco is of a soft biege tone with the woodwork stained and glazed to an antique finish. The brick is selected used common with moderate clinkers laid to obtain the effect of age. Windows and shutters are painted a gray-green, blending with the foliage. The roof is of cedar shingles left to weather. On entering one sees a generous reception hall with a fine living room to the right. Sunlight floods in from handsome windows, two of which are bayed. At the far end is a brick fireplace with a copper hood. The ceiling is pine with an antique finish. Directly opposite the entry is the library panelled in old oak, salvaged for association as well as quality, from the previous house built by Mrs. Hearst. To the left of the entrance is a large dining room with open dining porch where on balmy mornings the select few may have their Sunday breakfasts. There are also the necessary butler's pantry, kitchen with standard hotel equipment, two servants' rooms and bath, store room, furnace room, and a four-car garage. Upstairs are fourteen bed rooms with four bathroom groups. The walls of the main rooms and halls are canvassed, painted and stippled, their woodwork is mahogany stained and waxed

[Concluded on Page 33]

Other Recent Work of Edwin Lewis Snyder

Residence of

Mr. George Friend,

Arlington Estates, Berkeley

-:- -:- -:

Residence of

Dr. Clyde T. Wetmore,

Berkeley, California

-:- -:- -:-

English Cottage for

Mr. R. S. Bowers,

Berkeley Highlands

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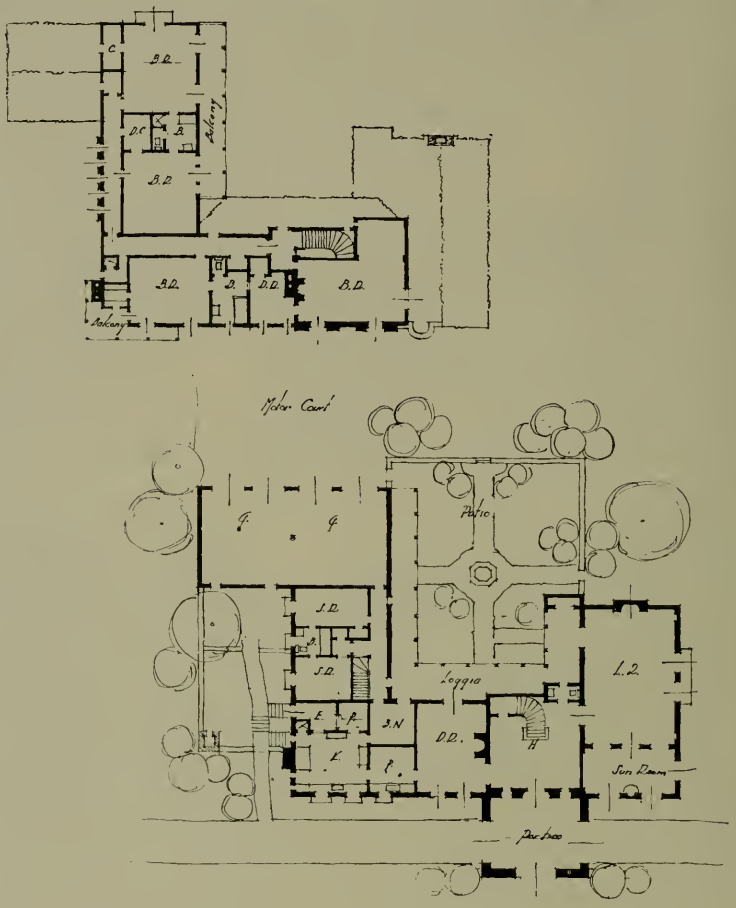
RESIDENCE OF GEORGE FRIEND, ARLINGTON ESTATES, BERKELEY

EDWIN LEWIS SNYDER, ARCHITECT



PLANS, RESIDENCE OF GEORGE FRIEND, ARLINGTON ESTATES, BERKELEY

EDWIN LEWIS SNYDER, ARCHITECT

GARAGE ENTRANCE, RESIDENCE OF GEORGE FRIEND, ARLINGTON ESTATES, BERKELEY

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NORTH LOGGIA, RESIDENCE OF GEORGE FRIEND, ARLINGTON ESTATES, BERKELEY

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PATIO DETAIL, RESIDENCE OF GEORGE FRIEND,
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GARDEN VIEW, RESIDENCE OF GEORGE FRIEND, ARLINGTON ESTATES, BERKELEY

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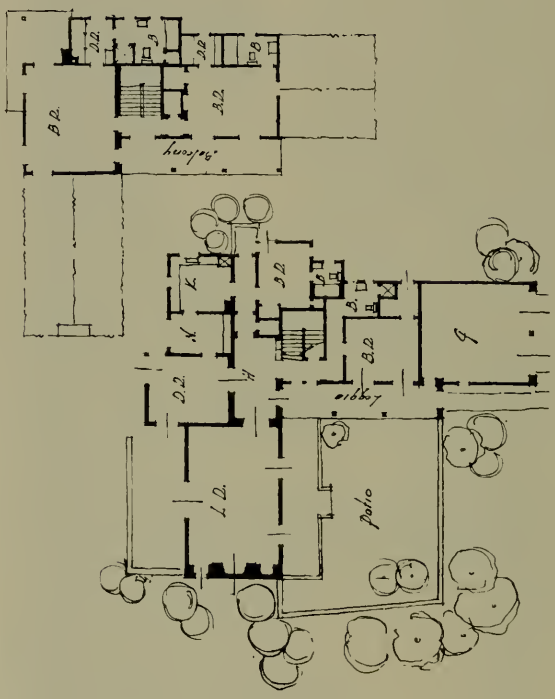

FIRST FLOOR PLAN, RESIDENCE OF DR. CLYDE T. WETMORE, BERKELEY
EDWIN LEWIS SNYDER, ARCHITECT

Photo by Confer, Peppin & Chamberlain

RESIDENCE OF DR. CLYDE T. WETMORE, BERKELEY

EDWIN LEWIS SNYDER, ARCHITECT

ENTRANCE DETAIL, RESIDENCE OF DR. CLYDE T. WETMORE, BERKELEY

EDWIN LEWIS SNYDER, ARCHITECT

BALCONY DETAIL, RESIDENCE OF DR. CLYDE T. WETMORE, BERKELEY

EDWIN LEWIS SNYDER, ARCHITECT

ENGLISH COTTAGE FOR R. S. BOWERS, BERKELEY HIGHLANDS
Edwin Lewis Snyder, Architect

LIVING ROOM GABLE, COTTAGE FOR R. S. BOWERS, BERKELEY HIGHLANDS

CONSTRUCTION DATA

Cottage for R. S. Bowers, Berkeley

A provincial English cottage of frame construction. Exterior finish of common brick and redwood whitewashed * * * roof, cedar shingles, stained * * * living room interior finished in knotty pine, stained a light maple tone and waxed * * * ceiling rough pine antiqued * * * dining room walls covered in red and white checked gingham, shellacked and glazed * * * walls and ceiling of master bedroom papered * * * oak plank floors * * * color tile bathroom * * * steel sash * * * gas hot air heating.

Cost per square foot, exclusive of architect's fee, $3.00.

SKETCH FOR PROPOSED RESIDENCE, CRESTON ROAD, BERKELEY, CALIFORNIA
Edwin Lewis Snyder, Architect

A NEW SORORITY HOUSE IN BERKELEY

[Concluded from Page 14]

—all floors are hardwood, the baths have tiled floors and walls. The heating system is a one-pipe steam job with full automatic oil burning furnace, which also supplies the hot water. There are seventy-seven hundred square feet in the building, including half the area of the basement, and the total cost, exclusive of architect's fees and kitchen equipment, was $27,500.00.

Mr. Snyder should be congratulated for having achieved a well built, economical and attractive sorority house that undoubtedly will bring pleasure not only to those who are privileged to live in it but to those who pass by.

Honor Award in Small House Competition

ENTRANCE DETAIL, RESIDENCE OF FREDERICK L. CONFER, BERKELEY, CALIFORNIA

EDWIN LEWIS SNYDER, ARCHITECT

FIREPLACE, RESIDENCE OF FREDERICK L. CONFER, BERKELEY
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WORK OF EDWIN LEWIS SNYDER

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SPAIN'S MAGIC ISLAND

An architect's graphic story of his travels and observations in a country teeming with architectural inspiration. . . . . .

by
EDWIN LEWIS SNYDER

IT is always a pleasure to discover a particular corner of the earth which really comes up to one's preconceived idealistic visions. Ever since my student days at the University of California, where among the many architectural works frequently referred to were certain drawings and photos by Prentice of Spanish work in Palma on the Island of Mallorca, there had been a great urge to see these lovely things and to absorb some of the wonderful atmosphere of that land. There is an old proverb about everything coming to him who waits, and after many years of waiting my wife and I finally found ourselves enroute on a little boat from Marseilles to Mallorca. And the less said about the boat, the better. It was more a glorified freight boat than a real passenger liner. We watched cattle being put aboard; also two freight cars of the French variety, a tractor chassis, an auto truck, an aeroplane, and literally hundreds of barrels, which, however, looked to be empty, besides numerous crates of various kinds of provisions. Passenger accommodations were quite limited and at the dinner assembly we found there were eleven passengers bound for Palma and about eight for Algiers. It is a twenty-two hour trip from Marseilles and I strongly advise anyone going to Palma to take one of the fine white boats from Barcelona, which leave every night at nine o'clock after one has enjoyed a good dinner and arrive in Palma early the next morning in time for petit dejeuner.

It is well worth being called early to catch the first daylight glimpse of the lovely blue bay and the pale golden city just becoming visible at the head of the port. For sheer physical beauty, one unhesitatingly places this Bay of Palma with the best and those of us who live on the shores of our own beautiful bay know that is admitting much. The rugged shore line of huge rocks topped by stone pines giving an effect quite like our Carmel coast finally yields to a scattering of small villas, then the small village groups and finally the outskirts of the city itself where the grim Belver Castle sits on a pine-clad hill, and at the edge of the sea a fringe of hotels and villas foretells the approach of the city proper in a long low line of dusty, golden buildings, broken abruptly in the center by the towering Gothic mass of the famous cathedral, more golden than the rest. And we find ourselves at the pier ready to step on to the stones of the magic island.

In landing, everything was easy; hotel busses handy, porters in abundance, all smiling and willing; an English speaking lad from the Royal Hotel, for which we had indicated a preference, who rushed aboard as soon as possible to be of assistance; a pleasant nod from the Spanish official who took our passport telling us to call at the Prefect of Police in the morning; another porter to help us in the bus. At the hotel another pleasant English speaking lad greeted us with a profound bow and after the usual discussion on prices we found ourselves comfortable in the hotel villa annex in a huge tile floored room with an immense balcony terrace hanging out

Photo by Edwin Lewis Snyder

COUNTRY LANE, SHOWING TYPICAL FARM HOUSE, NEAR PALMA, DE MALLORCA, SPAIN

over terraced gardens which led down to the sea. From our balcony we could begin to see the charm of Palma—the curve of the city to the left, the blue bay in front of us extending far as the eye could see and the sweep of villas to the right along El Terreno.

The town is a jumble of narrow streets running helter skelter in every direction, broken occasionally by a wide open rambla with a promenade down the center lined with plane trees where the natives stroll in the cool of the day. The old part of the city around the cathedral of San Francisco is most unusual and interesting. There are some very pretentious town houses owned by wealthy and titled Spaniards. These places are famous for their lovely patios and gardens in the rear. One of the principal charms of Palma is in these delightful patios, the architectural masterpieces of the town. We found a tremendous variety of architectural detail in these inner courtyards for here the real life of the family actually is lived.

The new section of Palma has little of interest because the recent work is almost universally bad. It is difficult to understand why the old architecture was never used as an inspiration, for in no instance did we find this to be the case and as a result of trying to go modern the local artisans have failed dismally.

We were particularly interested in the old markets of the town, of which the one, Mercato, is the largest and is in use every day. There seemed to be everything for sale — fruit, vegetables, dishes, crockery, fish, meat, jugs, chickens, turkeys, eggs, butter, cheese, nuts, flowers, plants, stockings, dress materials, shawls, handkerchiefs, canvas shoes and household goods of every sort. We were especially attracted to the fruit and vegetables. There being no frost, all sorts of fresh greens are available all the time. Tomatoes are favorites, also a particular kind of lettuce, and a green bean like a pea which is cooked in its pod. A native green melon was in season which had a delicious sweet flavor and found much favor with us. The native dishes are extremely interesting, resembling our Jugtown ware and used both for cooking and eating. The island is also famous for its Majolica, but this is in huge jars and water vessels rather than the elaborate small articles of Italy. Market places are always unusual and interesting for there one sees real native types. Peasants do all their purchasing that way and it is an adventure in itself to go there to see how it is done and to listen to the bargaining. Prices are ridiculously low, but that not only holds for market places but most everything in Palma, and I am sure it would be interesting to quote some actual figures.

Small furnished villas rent for as little as $16.00 per month. Apartments may be had for as low as $5.00 per month—but of course without modern conveniences — no bath rooms and no running water. Some have bath tubs which are connected with drains, but one must pour the water in with vessels. Many young couples are living comfortably for $45.00 per month, including shelter and food and part-time help from native women. Maids are paid about $6.00 per month. Part-time maids who come in to launder clothes get $1.00 per month.

The water problem is quite serious and since most of the villas are in the suburbs and away from city water the tenants must rely on deep cisterns and catch basins. The clear roof water is caught separately in cisterns for domestic supply and the yard, porch and terrace water is caught for irrigating the gardens. Now Palma has a water supply and gradually houses are being piped, but very few have even what we consider necessities. Native women with water jars go to the public hydrant in most all localities, as is the usual custom in Southern European villages.

Cooking is done on a native stove with coke or charcoal and occasionally one finds a small 2 burner gas plate which helps things along a bit. A Mallorcan oven is a complicated affair of pottery with a bottom pan, an inner grill and a ventilated cover, all of which is about 24" in diameter and quite heavy and cooks very badly. The coke and charcoal has to be fanned constantly through a small opening and finally, with much patience, a meal may be pro-

TYPICAL STREET SCENE, PALMA DE MALLORCA, SPAIN
Photo by Edwin Lewis Snyder

cured, but it is quite a laborious affair. One can imagine that not many people entertain at dinner in Palma. Tea and breakfast are the entertaining meals. Everyone has tea at 4:00 P. M. as the dinner hour is very late—8:00 or after.

Heating is another serious problem and is done either by poor fireplaces or small stoves. Olive wood is burned and is quite like oak—very hard and very hot; if the fireplace works, it is very fine. There are just a few months when a fire is needed but it is a problem to know just how to do it. No one can afford a central plant so stoves or salamanders or grates are the only means.

For persons with limited incomes, Palma is a haven of refuge for it is possible to live very cheaply, but comfortably. Pension rates in the native boarding houses are ridiculous. One case I know of — a week's bill including extras was 57.50 Pesetas which is about $5.00, or even less, a week for a room and three meals. Pension rates average 10 to 12 pesetas a day —or about $1.00 in the pensions and about 18 to 25 per day or about $1.50 to $1.75 in the hotels. The most expensive hotel is $2.00 per day—room and meals. I am told that over a period of 5 years there has been little change in prices.

Palma has many interesting suburbs —all groups of small dwellings near enough to town to come in by tram. These suburban dwellings are quite similar in plan, usually being a rectangle, facing a sunny terrace on which is built a pergola of stone. Openings are all shuttered and on the first floor nearly all run to the floor. The openings have a wide band of color around them and a dado is painted across the base of the building. There are wide bands of color running up the corners and the floor lines are indicated with these same wide bands. Colors vary — some a deep Moorish blue—others a terra cotta red, or a yellow or a slate gray. Shutters are either green or blue. Houses are nearly always white-washed and if not, are the color of the natural stone. Roofs are of tile —either a hip, a ridge or a shed type. Tiles are a weathered yellow and quite monotonous in tone.

General construction is always local stone. Floor joists of wood are let into the stone walls and are laid close enough to support web-tiling about 14" square on which the upper floor tiles are laid. Stairways are of stone or concrete.

Probably the type of work which interested me more than any other was the community farm dwellings — consisting of a composite group of sufficient capacity to house a number of families and even a portion set aside for the owners of the property. There is usually an inner patio accessible through a portion of the building or directly by gate to the outside. Around the patio are grouped the various apartments or houses of different sizes and height, yet by the means of broken roof lines all tied together in one continuous mass. Then from this main group run various wings; for livestock or for farm implements or for the workers who shell almonds or sort olives; for wine making

or for any of the numerous activities connected with agricultural life of the island. Sometimes there is a large community kitchen; sometimes a community wine press, but in this comfortable structure everything necessary to the life of the farm is found. The maetrial is stone and left crudely natural except the inner walls of the patio and the portion reserved for the family, which is plastered, painted or whitewashed and decorated with colored bands. Most of these houses have definite names—either the family name or the name of the village nearby or some definite thing to stamp it with individuality—as Son Quiant or Son Berga or Can Capas.

Aside from these somewhat simple and primitive types of suburban dwellings, there are the more pretentious type of gentry homes owned for the most part by nobility of Spain and used as summer residences. They are built on some highly commanding site overlooking the countryside and where possible on down to the sea. Some are built of brick, some of stone and all in a very complete state of preservation and repair — very beautifully landscaped and quite architecturally perfect. Son Vida, the largest near Palma is of buff colored brick and stone—set on a knoll with the gardens falling away on all sides in series of terraces. The building is quite symmetrical and includes a battlemented tower, rather more Moorish than Spanish. There is a service patio and the wing facing it is plastered. The wing contains the working section of the estate where peasants shell and sort almonds. crush olives for oil making and do the general work necessarily found in such a place. The whole estate is quite complete and contains everything necessary for a thorough carrying on of the agricultural business of the country.

The gardens are quite interesting, planted on terraces and containing varieties of orange and lemon trees—many kinds of evergreen and a great profusion of flowers. Regular paths run through the gardens leading to points of interest. From the upper terrace immediatey adjoining the house a marvelous view of the country behind Palma is obtained—the city itself and the blue sea beyond.

PATIO, CASA OLEZA, PALMA DE MALLORCA, SPAIN
Photo by Edwin Lewis Snyder

One of the most interesting sights of the whole estate is the kitchen—a huge whitewashed walled room containing an immense fireplace at one end in which much of the cooking is done. There is also a charcoal oven and one one side of it a deep cistern from which water is obtainable. On the long walls hang an immense collection of various sized copper kettles all beautifully polished and in complete order. On a high shelf an equally large collection of various sized native china is found. The ceiling of the kitchen is heavily beamed and black with age. Off the kitchen is a large servants dining room containing some interesting Mallorcan furniture, a smaller fireplace and oven and a smaller collection of copper and crockery cooking utensils.

The general interior of the house is typical of most gentry houses of Spain—elaborately decorated wooden ceilings, walls

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panelled in damask, heavy damask curtains and a large assortment of various kinds of Spanish and Mallorcan furniture; tiled floors and native or Oriental rugs.

These estates are all quite complete and have their tenant farmers and peasant caretakers who are always on the property. Olives and almonds are the main crops—an interesting kind of almond, small, hard and tasty which when shelled and slightly heated permits the removal of the inner skin yet has the taste of a fresh nut.

Another of these gentry estates is at Establiments and the two very famous ones up in the mountains are Raixa and El Granja. El Granja is famous for its garens, it having many natural springs which give an unlimited water supply and as a result the landscaping is marvelous—quite tropical and luxuriant. Raixa is a direct descendant of the original Moorish castle and garden.

Al Fabia is another Moorish garden which has come into Spanish possession and is now owned by a native of Palma.

Our first interesting excursion from Palma was to Formentor by automobile. Six of us in an open touring Buick started out in the morning with a Spanish driver. Leaving Palma we went North into the lovely flat countryside which is cultivated most highly. All the little farms are separated by high stone walls and as I said before, each has its charming group of farm buildings. Around the little town of Ponte Inca there were buildings which could have been transplanted intact to California and would have been considered quite right architecturally. At the town of Inca we stopped at a very old and famous wine cellar. We went down steps below the street level into a huge high ceilinged room lined with immense wine vats of wood, some 12 feet high with huge wooden hoops around them. A few tables and chairs were provided in the center and at the end of the room was an elaborate fireplace which, strange to say, seemed to work. Members of our party were allowed to sample as much wine as they wished until they found the variety, which pleased most. This was then generously served with a plate of Inca biscuits made by a local nunnery.

At Inca is also a famous crockery works which is noted throughout the country and exports all over the world, including some local San Francisco shops.

Pollensa was the largest town through which we passed — a quaint jumble of crooked streets, fascinatingly narrow, and rows of simple houses lining them. Since Pollensa is not on the sea , it has a port and it is here where the main life of the town is found. The bay itself is a lovely stretch of blue water with a graceful curving shore line along which the little village is built, and which is really a series of hotels and small shops. Many visitors stay the year round for the climate is quite mild and bathing is gorgeous. The water is shallow enough to wade into from a gravelly beach and is crystal clear. We had lunch at the little hotel — "Mar-I-Sel" meaning house by the sea—a quaint little place of wooden ceilings, tile floors and white washed walls.

After lunch we drove over a new, interesting and scenic mountain road to the new hotel, "Formentor"—the Ritz of Mallorca and situated on a peninsula, the northern most tip of the island—facing the Bay of Pollensa toward the South. The whole peninsula is covered with stone pines and huge rocky promontories. The road climbs to the top from which a wonderful panorama of the northern shoreline and sea is obtainable and then winds down in a series of long graceful curves, through rocks and pine forests to the hotel grounds. Wild palms, wild heather 4 feet high and wild holly make this whole section a natural garden of beauty. The hotel itself is supposed to be modern — built by a South American—very poorly designed, but with beautiful terraces and lovely gardens leading down to the water. The public rooms inside are quite barren, but rather comfortably furnished. The bed rooms, however, are works of art; all done with antique Mallorcan furniture, including native bed spreads, hand-made rugs on the floor and local textiles at the window. Rates from 35 pesetas up en pension, which is less than $3.00 a day for a hotel of the character of the Biltmore in Santa Barbara. The whole trip, including the auto, the lunch, the tea

and tips, cost us 22 pesetas apiece, or about $1.60.

Another very interesting auto trip was to the South and West covering the lower tip of the island. Going through El Terrero, we followed the coast line through Cas Catala at which the suburbs of Palma end. From then on the country is hilly and covered with stone pines and from the road there is a continuous view of the sea most of the time.

The first town of any size is Andraix near the sea—a quaint huddle of houses and the same twisting narrow streets which are hardly wide enough for an auto to pass. There is also a port, some five kilometers away. The country about Andraix is rather well cultivated — olives mostly and much of the land is artificially terraced with long rows of stone walls which give some flat surfaces for the cultivation of grapes and vegetables.

The road beyond Andraix is the prize of the entire island. It is really only a cart road and does the most impossible things—climbs up the face of cliffs, over mountains, down valleys, across streams, winding and twisting, now up, now down—and every turn requiring two or more backings of the car to get around and no protecting walls to prevent a crash, should the brakes give way. We climbed endlessly, it seemed, right to the top of the highest mountain of rock and looked two thousand feet or more down to the shore line where the blue waters of the Mediterranean were beating clear and cold against the rocks. Then down again, following ravines and up again on the other side, more turns, worse than hairpins and all the more precarious because of being slippery with wet clay and loose stones. It was some ride and we were glad when we saw in the distance the little town of Estellenchs where we knew the good road began again. This dangerous bit of mountain road will one day be the scenic drive of Mallorca but it needs grading and widening and proper surfacing. It is not an auto road at present, just good enough for a horse and cart. I don't know what we would have done if we had met anyone, but fortunately the whole distance of some twenty or thirty kilometers we had the road to ourselves, which in itself shows how dangerous it is considered even by the natives.

Estellenchs is charmingly situated in a long gentle ravine and is quite picturesque with its square church tower predominating the group of typical island dwellings. From this town to Balanbufar the whole slope of countryside is artificially terraced. There are miles of stone walls, stones laid up dry, some ten to twelve feet high, which give the only level land to cultivate. These terrace walls follow the curve of the hills and make a most picturesque countryside. But the tremendous amount of labor involved in all this stone work is quite appalling and the cost in our country could never be reckoned in dollars and cents. I suppose every farmer terraces his own land, but the infinite amount of patience necessary to get the land ready for cultivation is truly breath-taking. Balanbufar is noted as a tomato growing district. It is a warm sheltered spot and the tomatoes grow to be huge. Water for the plants is caught in huge cisterns at surface reservoirs on the highest terraces and is led by gravity to the plants on the terraces below.

We had lunch at Balanbufar at a quaint little roadside fonda, over which was a sign, "Meals—lovely prices". The eager landlord gleefully gave us his knowledge of English which consisted of "cup, fork, knife, spoon, water, wine"—words relating to some sort of food or eating utensil. He was young and almost toothless, and with a young wife and a growing brood of kiddies, kept his place immaculate. We had taken our lunch with us but he furnished the necessary implements.

From Balanbufar we rode up into the mountains again through pine and olive groves and soon came in sight of Palma and the bay far off to the South. We followed the ridge of the mountains for some distance and then curved back again toward the western coast line and in a spot which at one time was no doubt highly inaccessible we found the little village and the famous old monastery of Valldemosa. So much could be written and has been written about this spot—the buildings which were begun so long ago and which

grew through the following centuries until their present group is quite sizeable and forms one of the most interesting places of Mallorca to visit and study. There is a large central church, an outer court surrounded by a long, low, whitewashed building containing little shops, several inner courts and patios around which the cloisters and monks' cells are located. One of the patios is called the George Sand garden due to the fact that one of the many Chopin-Sand honeymoons was spent here in cells adjoining the patio. It is a delightful little place of orange and lemon trees, a tangle of flowers, tile walls and a lovely old stone well head in the center. The other patios are also a quaint tangle of shrubs and flowers. Many of the cells are furnished and are rented out to outsiders at a most nominal rental—very sparsely furnished with only the barest necessities. The old campanile is a remnant of Moorish tradition—a tall graceful thing with its over-hanging four-sided balcony and a finial of green tile.

The ride from Valldemosa to Soller is along the famous Miramar coast and is justly noted for its beauty. The winding road follows the gently curving slopes of mountains through pine forests and ever along the left is the blue sea dashing its white spray against the rocky shore line. At Miramar is a lovely little belvedere where one may sit and look unobstructedly up and down the shore or out to sea toward Spain.

A little further North is Deja, beloved of artists and many of them are to be found wandering along the roads and over the hills with their pads and easels. And no wonder — there are subjects innumerable; quaint little houses hanging out over a ravine, a rushing stream tumbling down the mountain's side and under a stone bridge, a group of small dwellings crowning a hill top, the little church with its cluster of houses nestling around its base, the fonda with its terrace and pergola hanging over the rushing stream and looking off to the sea beyond, the little struggling village with its single narrow street, houses clambering down the slope below and up the slope above—one story on the street, four at the rear; pictures everywhere —crude plastered walls, natural stone walls, moss covered tile roofs, decorative smoky chimneys, a blacksmith shop, a grocery store, the fruit stalls—all compositions which give almost unending material for sketch pad and canvas.

Deja is rightfully the superlative beauty spot of the island — situated in a densely wooded ravine, with a very active stream rushing down to the sea under most of the buildings of the town; pine, oak, olive—all mixed helter skelter to make a tangle of green out of which the colorful tile roofs of the town appear at the turn of the road, beginning high up on the mountain side with the church tower predominatingly in evidence and tumbling down, down, down —almost to the sea below. A picture indeed—a thousand pictures in one and a never to be forgotten spot. Deja—even the name is beautiful.

And so, after six weeks in this Paradise, with great reluctance we finally went to the tourist office to arrange for our return passage to the cold and fogginess of France in winter.

THE VALUE OF LIGHT AND SHADE IN ARCHITECTURAL PRACTICE

THAT there is a great deal to be learned about light and color was evidenced in an illustrated talk by A. E. Lawrence, Advertising Manager of the National Lead Company of San Francisco, and Clark Baker, Sr., light expert and member of the firm of Baker & Prussia, Oakland, before the Producers' Council at a recent meeting in San Francisco.

In beginning his talk Mr. Lawrence announced that through a survey made some time ago, it was estimated that eighty-seven percent of our knowledge is gained through seeing. The balance of our knowledge is made up of hearing, smelling, tasting and touching. That, however, was before the advent of the radio and it is possible that these percentages have changed somewhat, giving to hearing the credit for more of our knowledge than heretofore, with somewhat less to seeing. Mr. Lawrence said in part:

"Often we hear the expression used, 'to understand something thoroughly, you must have it visualized.' The architect is called upon to suggest the design of a building. The client is not satisfied in just having general detail explained; he is often not satisfied to see it iin just 'black and white.' He wants to see it reproduced in color as closely as possible to what it will be when completed, and when it comes to the detail of the building, step by step the draftsman lays out the entire building so that all may see.'

"This but illustrates how important vision is to us and it is particularly true when considered from the standpoint of color.

"There is an old advertising saying, 'pictures sell but color compels.' In other words, while it is possible to visualize something through a picture, when it is in color the story is complete.

"Often we are asked just what is color. Possibly the simplest answer would be, 'the presence of white light' for without white light we cannot have color. Black, being the absence of light, is not considered as a color. Colors are but the component parts of white light which, when broken down, are according to the prismatic chart of Moses Harris, the three primary colors, red, yellow and blue, the secondary, orange, green and violet, and other colors developed through the intermixing of the primaries and secondaries in varying proportions. Tints of the colors shown on the prismatic chart are developed through the addition of white. Shades are developed through the addition of black.

"In considering color it must be considered from the standpoint of illumination or colored lighting and color in pigment. According to the prismatic theory of color, when light falls on an object, because of the chemical content of that object, certain of the light rays are absorbed—others are reflected. It is the reflection of these light rays registering on the brain cells that enables us to say we see a color. This is what is known as the 'subtractive theory'.

"In illumination the theory is directly opposite. The light rays are added one to the other and we have what is known as the 'addative theory'. It is interesting in considering these two when we realize that the primary colors in pigment—red, yellow and blue—are virtually the secondary colors of illumination, whereas the secondary

colors of pigments—orange, green and violet—are virtually the primary colors of illumination.

"In considering color for practical use, it is well to divide it into two classes—physical and visual. Physical colors are colors taken from the earth or colors developed in the chemical laboratory. Visual colors are the result of the association of these colors. Take, for instance, the color page in any magazine. Look at it carefully and one will see possibly hundreds of colors developed there. Examine it through a magnifying glass, and where we have seen a surface which appears to be orange close inspection will show that it is not orange we are viewing, but rather dots of red on a yellow field. Possibly there may be a few dots of black. More dots of black with the red on a yellow field would develop a tone of terra cotta, while still more dots of black and fewer of red on the yellow ground would develop a tone of brown. Just the same way, where we see tones of orchid, lavender or violet, if we examine them through magnifying glass, we will find they are all developed through the arrangement of dots and sometimes black is added to give shades of these colors. Considering the use of color from a decorative or architectural standpoint, we must remember that it is affected by its environment. In other words, one color will take on the characteristics of a color by which it is surrounded. Another thing to remember is that color has dimensions. White, or a light color, will serve to make an object appear larger than will black or a dark color. Warm colors, red, orange or yellow —what are termed 'advancing colors' — have a tendency to make the object on which they are used appear visually to be closer than it is in reality, and the colors opposite these on the prismatic chart — green, blue and violet—are 'receding colors' and have a tendency to make the object on which they are used appear farther away. These characteristics of color must be considered by anyone using colors in an architectural way or from a decorative standpoint.

"There has been handed down to us through the ages, certain symbols of color and virtually everyone will react to color in the same way. Red is an exciting color. In its warmer tones it stands for danger and fire. In the deeper tones it stands for strength. When it takes on a slightly bluish cast it becomes symbol of health and beauty.

"It is interesting in this connection when we realize that the complimentary color to red, which is green, has just the oposite effect on our emotions and has the oposite symbol. Green is a cooling color and is the symbol of inexperience and is also the symbol of peace. When bordering on the yellow it is the symbol of sickness.

"When we use the term 'complimentary' it is often thought of as meaning that one color will pay a compliment to the other. While it is true that complimentary colors do act in this way to one another, the true definition of a 'complimentary color' is that colors complementary to each other complete the spectrum. In other words, red and green are complimentary to each other. The three primary colors are red, yellow and blue. Green is composed of yellow and blue so by using red and green we have used the three colors that complete the spectrum."

After calling attention to the relation of light and sight, and describing, with the aid of an eye chart, how Light functions with the human eye, Mr. Baker described with the aid of an especially designed chart, the wavelength or vibration theory of color, together with what part of the eye is used in the process of seeing color.

The speaker demonstrated with colored light and colored fabrics the principle of additive and subtractive mixings of pigment vs. light which was discussed in detail by Mr. Lawrence. This demonstration included the four fundamentals in the process of seeing:

1.—The size of an object; with angles subtended at the eye.

2.—Brightness; the amount of light which falls on an object and is reflected to the eye.

3.—Time of seeing: the human eye was evolved to see under sun-light conditions, which is 10,000 foot-candle intensity, although the eye sees almost

up to its capacity at 300 foot-candles. The average foot-candle intensity at present in most office and stores is less than 10, which means that the eye under this amount of light is only seeing approximately 58% efficient. At 20 ft. candles the eye sees 70% efficient, at 40 ft. candles, approximately 88% efficient, and so on up to 100% at approximately 300 foot-candles.

4.—Contrast; put a white mark on a white surface. You do not see it clearly, probably not at all. However, put a black mark on a white surface and it is immediately discernible.

At this point a demonstration was made showing how a low priced piece of fabric was made to appear higher in value by putting more light upon it, thereby enabling the eye to see it more clearly and more quickly. It was made still more attractive by another step of higher ilumination. Colored light was introduced showing how the fabric was further enhanced in its appearance by colored light of the proper hue. Still another demonstration was made showing how even the highest priced merchandise may take on the appearance of cheapness and even shoddiness when colored lights of improper hue, tone or shade are used.

The principles of light and shade were demonstrated, bringing out the point that we see objects by their brightness, that is, the amount of light that falls upon them and in turn is reflected in the eye. We discern form by light and shade. The demonstration showed how light approaching objects from natural directions makes them retain their natural appearance and form, while light approaching from an unnatural direction produces unnatural, ugly and hazardous shadows.

The same demonstration brought out that we could not eliminate shadows entirely, that extreme care must be given so as to produce that which is most conducive to the object displayed.

This demonstration further brought out how much of the architectural beauty of a building design is lost when floodlighted from unnatural directions. Present practice, by reason of limits in equipment design do not permit, very often, sending light to a building from any other than an unnatural direction. Mr. Baker here announced that Mr. Prussia, his business associate and himself had perfected a new style of exterior lighting, which we hoped to have ready to submit to the architectural profession within the year. It is so designed that it will permit the architect to completely maintain his architectural design, and at the same time give his client all, if not more building advertising than is possible with present practice. The possibilities of this new method of exterior lighting for hotels and apartment houses was explained.

The next demonstration was the absorption of light on colored pigments, bringing out the criticism that merchants make of lighting men, engineers and in some instances architects for giving them uneven lighting in their various departments, when the lighting units installed are of like size and style. The demonstration showed the appearance of two different sections or departments of a store with the lighting equipment the same in each case. One department had on display light colored goods, while the other department had on display dark colored goods. The demonstration very clearly showed how the dark goods department absorbed light sufficient to have a totally different appearance from that of the other department. The speaker pointed out that the remedy necessary to correct this situation was adequate wiring to provide for more light in those departments where the darker merchandise is sold.

This demonstration was followed by another, in which color interceptance (pigment) created its own influence or atmosphere if treated intelligently with white light. During this demonstration Mr. Baker discussed the law of color, the psychology of color, the philosophy of color, and the symbolism of color. It was brought out that any two individuals rarely, if ever, see color exactly alike. We know for instance the dark or red race of people see color more vividly than the blonde races, yet it is no indication they like it any better; perhaps not as well.

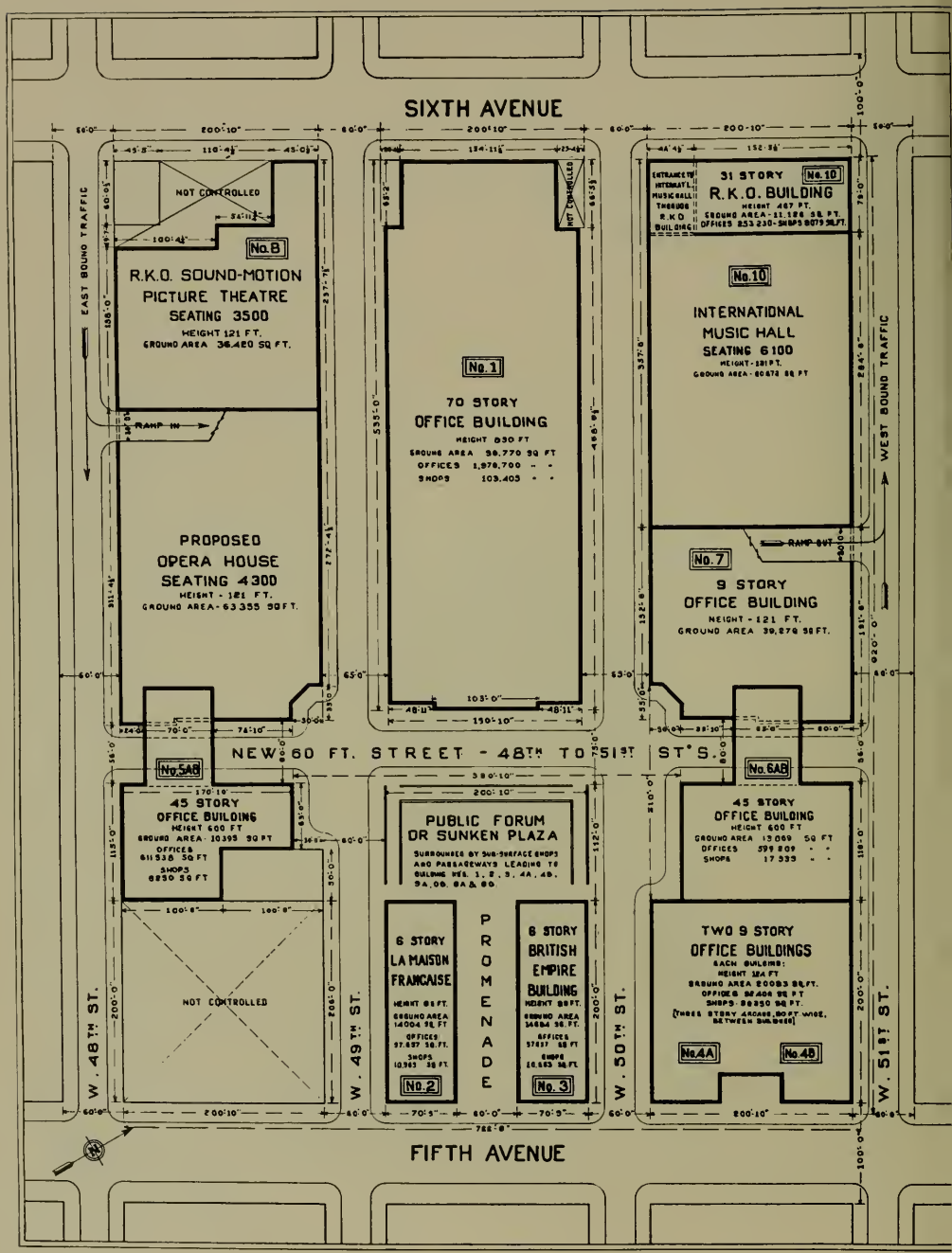
ROCKEFELLER CENTER HAS WORLD'S LARGEST OFFICE BUILDING

FROM sheer size and spectacular magnificence, no private commercial enterprise has ever approached—at least in modern times — the development now under construction in midtown New York and known as Rockefeller Center. It is probable, and justly so, that no building project has so stirred the imagination of the public as this amazing and elaborate group of buildings which seems destined to become an international business, financial and entertainment center. It will include the largest office building in the world in point of floor area, the world's largest theater, and the finest collection of contemporary art ever presented in connection with a commercial building development. It will contain over a mile of shop frontage, and over 4,000,000 sq. ft. of office space. The opera house, music hall and theaters will have a combined seating capacity of 13,900.

Due to the publicity given to certain large leases—Radio-Keith-Orpheum, National Broadcasting Company, Radio Corporation of America, and affiliated concerns —the development in its earlier stages became popularly known as "Radio City." The public was informed last March that "The Board of Directors . . . has considered carefully the question of a fitting name for the development sponsored by John D. Rockefeller, Jr., and located between Fifth and Sixth Avenues from 48th to 51st Streets . . . it is considered an appropriate time to announce an official and permanent name for the entire development. This name will be Rockefeller Center."

R. K. O. OFFICE BUILDING WITH INTERNATIONAL MUSIC HALL IN THE BACKGROUND, ROCKEFELLER CENTER

Such world-wide publicity has been given to the philanthropic work of the Rockefellers, notably Rockefeller Institute, that many people have assumed that the



GROUND PLAN, ROCKEFELLER CENTER, NEW YORK CITY, N. Y.

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY,
HOOD & FOUILHOUX, ARCHITECTS

Rockefeller Center development was more of an altruistic project than a purely commercial enterprise. This is not the case. The development has been planned throughout so as to pay its own way.

Comprising the group are eleven buildings (some of which are subdivided), consisting of a 70-story office building — the central tower—two 6-story office buildings, two 9-story office buildings, two 45-story office buildings, a 31-story office building, a music hall which will seat 6100 persons, an opera house to seat 4300, and a sound motion picture theater to seat 3500. The area included covers three city blocks—almost 12-acres — of which the buildings cover nearly 422,000 sq. ft. Large areas have been devoted to a new street, a promenade from Fifth Avenue, and a large central plaza—all to avoid traffic congestion and to provide the maximum amount of light and air in office buildings.

The accompanying table summarizes the general data on the buildings. Cold figures, however, can give no idea of the elaborate arrangements which have been made to provide for the maximum amount of light and air, to provide for future traffic conditions, and to beautify the entire project.

No.	Height, Stories	Type	Ground Area Sq. Ft.	Name
1	70	Office Bldg.	99,770	—
2	6	"	14,084	La Maison Francaise
3	6	"	14,084	British Empire Bldg.
4a & 4b	9	Office Bldgs.	40,167	—
5a & 5b	45	"	21,472	—
6	45	"	21,472	—
7	9	"	39,279	—
8	(89 ft.)	Theater	36,420	R. K. O. Theater
10a	31	Office Bldg.	11,126	R. K. O. Bldg.
10	(121 ft.)	Theater	60,672	Int. Music Hall
—	(121 ft.)	Opera House	63,355	Opera House
		Total	421,901	

Referring to the general layout, attention is immediately focused on the 70-story office building. This is set back from Fifth Avenue about 400 ft. Occupying the space between the tower and Fifth Avenue are two 6-story buildings on the Avenue, with a promenade 60 ft. wide between. The promenade, providing a dignified and impressive Fifth Avenue approach to all buildings, leads into the central Forum or sunken plaza facing the central tower.

The plaza serves three purposes: it is a sunken garden from which shops open, and is also the entrance to the whole system of shops on the basement shopping level underlying practically the whole development; it creates a shopping level on the underground floors and constitutes a shopping center for the project, and it makes a beautiful setting for the office buildings adjoining it.

THE R. K. O. SOUND MOTION PICTURE THEATER, ROCKEFELLER CENTER

A notable feature of Rockefeller Center, and of particular interest to architects and

THE BRITISH EMPIRE BUILDING, ROCKEFELLER CENTER

SEVENTY-STORY OFFICE BUILDING, ROCKEFELLER CENTER, NEW YORK CITY

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY, HOOD & FOUILHOUX, ARCHITECTS

ROCKEFELLER CENTER FROM A POINT OVER ST. PATRICK'S CATHEDRAL, NEW YORK CITY

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY, HOOD & FOUILHOUX, ARCHITECTS

engineers, is that the design of the whole project has been a progressive one. The first plans were made public in the spring of 1931, and changes have been made continuously, not only in details of buildings but in the major design of whole buildings. it is easy to understand that, from the standpoint of promotion and leasing, any idea proposed at first might be partially unworkable. This was the case with Rockefeller Center. When it was found impossible or inexpedient to include a certain building of a given design (perhaps because of renting conditions) the plan was changed so as to provide for the accommodation of an entirely different class of building. Too, as the plan progressed, further refinements suggested themselves, which on an ordinary project might have meant simple adjustments, but in a development of this size meant a rearrangement of many facilities.

Since the design has been progressive, minor changes are still taking place, and probably will continue until the last building is erected. This is particularly true of the 45-story office buildings, the proposed opera house, and the future 9-story and 6-story buildings.

The general features of Rockefeller Center are so closely tied up with the individual buildings that a description of these points cannot be discussed without an understanding of the general features of the specific buildings. Although the details of several of the structures have not as yet been decided upon, the size and probable arrangement are more or less definite. With this in mind, a fairly comprehensive description of the buildings follows:

The main entrance of this 70-story skyscraper faces on the sunken Plaza, and the tower of the building rises at this end. At the Sixth Avenue end the building is 301 ft. high, and this part is joined to the tower by a section 150 ft. high. The building is 535 ft. long and 191 ft. wide in plan. The height to the top of the main tower is approximately 850 ft. Of the total floor space, 103,405 sq. ft. will be devoted to shops and 1,979,700 sq. ft. to offices. In addition to the shop space, the first floor and first mezzanine will include a large continental type restaurant, with dining terraces to seat 1800 people.

The remainder of the first floor and first mezzanine floor will be devoted entirely to shops and service space. The third to eleventh floors will be occupied by the offices and studios of the National Broadcasting Company and by a few rentable offices. The greater part of this space will be blanked off from the rest of the building and the outside by sound insulation, and it is expected that, inasmuch as this space will be air conditioned, the window space will be little needed. One distinctly fine feature embodied in the design of all office buildings in the group is that no office space will be more than 27½ ft. from an outside window opening. Practically all office windows will look out upon the gardens on the lower roofs of other buildings in the development.

The Music Hall is designed for the exhibition of revues and spectacles on a large scale. It will be operated by the Radio-Keith-Orpheum Corporation, and under management of S. L. Rothafel ("Roxy") of broadcasting fame.

Although the Music Hall is designed for entertainment in the form of spectacles or high grade vaudeville, it can be converted, if desired, to use for legitimate shows or sound motion pictures. The hall will seat 6100 persons, of which 3500 will be seated in the orchestra section.

The International Music Hall will cover 60,672 sq. ft. of ground area and will be 121 ft. high. The air conditioning system will have a capacity of 600 tons, and will supply 40 c.f.m. per person, a total of nine tons of conditioned air per minute.

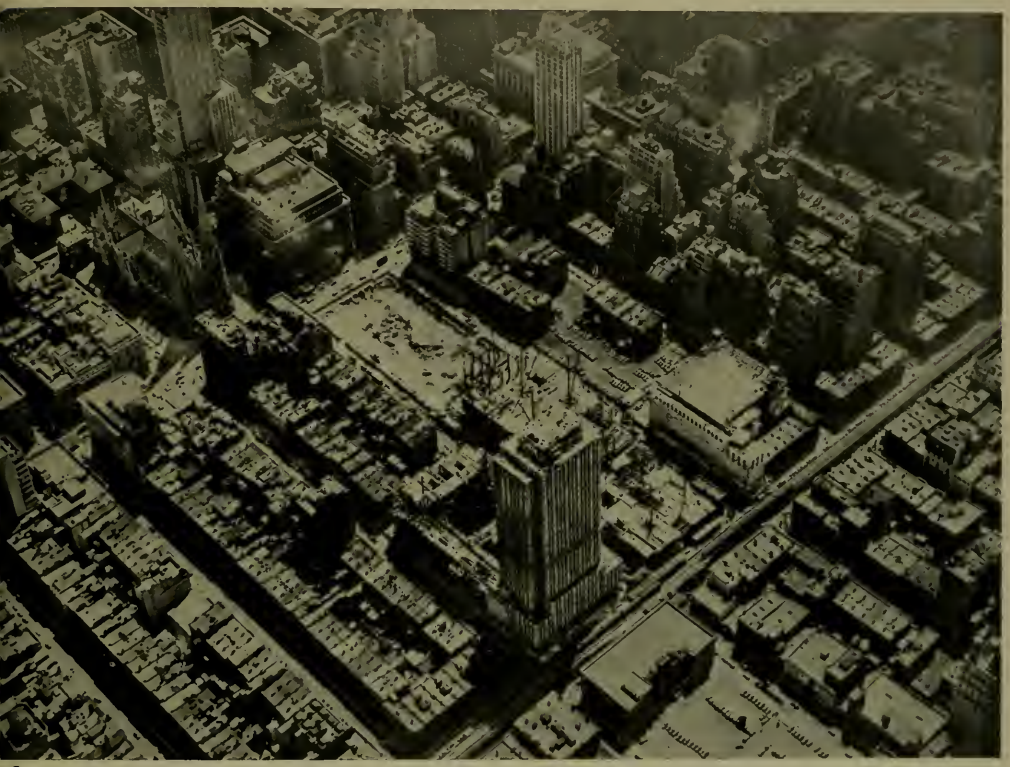
The type of show to be produced and the size of the theater make the design of special equipment of unusual interest. In the Music Hall, specially designed stage and theater lighting equipment will make possible the production of any shade of the spectrum or any color combination required to bring out or to harmonize with the varying spirits or moods of different scenes upon the stage. Indirect lighting will be employed in the auditorium, the ceiling and walls of which have been designed for this purpose. One of the principal decorative

effects will be a sun burst emanating from the top of the proscenium arch and diffusing its rays over a series of overlapping arches which form the side walls and ceiling of the main auditorium.

The stage, 143 ft. wide and 62 ft. deep, will be provided with a system for producing lighting effects of unusual scale and diversity.

A traveling orchestra platform, or "band wagon", is one of the interesting features of this theater. Employing a system of tracks and elevators, actuated by motors under the control of the orchestra leader, the "band wagon" can be raised or lowered or made to travel under the stage to a position in the rear and then raised to a height of 13 ft. above the stage. A turn table, 40 ft. in diameter, located in the center of the stage, can be revolved in either direction while being raised or lowered.

The exterior of the Music Hall has been designed to harmonize with the general theme of the architecture throughout the development. A formal garden on the roof, one of a series extending over the lower roof areas of all buildings in Rockefeller Center, will be patterned after the gardens of old Spain, and will have fountains, pools, grass plots, shrubbery and trees. An artistically designed bridge across 50th Street will lead to another garden on the lower roof area of the 70-story office and studio building between 49th and 50th Streets.



Illustrations courtesy of Heating and Ventilating Magazine

THE THREE BLOCKS ON WHICH ROCKEFELLER CENTER IS BEING BUILT
Air photo taken in April, 1932

Studios and rooms for rehearsals, broadcasting, previews and tryouts will be located in the truss space directly over the main auditorium. In the basement area directly beneath the grand foyer will be a club room with lounges and rest rooms at either end. The remainder of the basement space will be occupied by mechanical (including air cleaning and cooling) and electrical equipment and other facilities.

The Sound Motion Picture Theater, also leased to and to be operated by the Radio-Keith-Orpheum Corporation, will have the most complete system of sound reproducing and amplifying equipment ever designed. The theater will seat 3500 persons, and is expected to be completed in the fall.

The plans shows an innovation in architectural city planning. Several acres of intensive landscaping will be devoted to waterfalls, fountains, reflecting pools, trees, shrubbery, formal flower beds, multi-colored tile walks, grass plots and statuary. Plans for covering the outer walls of the buildings with a network of living ivy are also a tentative part of the scenic picture.

Almost an acre of ground space, visible from the street, will surround the sunken plaza, or Forum, with its sculptural fountains and mosaic pavement.

There will be two levels of landscaping above the studios of the National Broadcasting Company, in the lower roof area between the main building and the main east wall of the 16-story wing. These areas will be at the thirteenth and eleventh floor levels and connected by stairways. They will have terraces, formal flower gardens, benches and geometric grass plots, with two or more small fountains. The general appearance will be that of a formal garden.

Extensive landscaping will be worked out on the roofs of the International Music Hall and the Sound Motion Picture Theater. On the north side of the Music Hall and the south side of the sound theater will be 30 ft. hedges of beech, hemlock, or linden, so that to the eye the hedges will form a frame for the picture. The rest of these two roofs will be devoted to formal gardens.

All the roofs and setbacks beneath the 16-story level will be fully landscaped. A

The height and location of buildings in the development are in accordance with the "stagger plan," which leading city planners have been urging for years as the architectural solution for the placing of skyscrapers in a modern city. There will be from 200 ft. to 300 ft. between any corner of the bigger building and the nearest diagonal corner of the building most closely adjacent.

The development will have the finest collection of contemporary art, sculpture, and murals ever presented as part of a commercial development. Over forty murals, fifty sets of sculpture, and six acres of roof landscaping will make the project an international art center.

Traffic congestion, especially in view of the seating capacity of the theaters and opera, has been provided against. Of the total area, 1¾ acres have been devoted to streets and open space. The plan shows a new cross street, 60 ft. wide, in front of the central tower. This roadway will pass under both of the 45-story office buildings, the westerly wings of which will bridge the street.

The magnitude of the project can be better appreciated by totaling some of the material quantities which will enter into the building of Rockefeller Center. Three thousand carloads of structural steel will be required. Other figures include 1700 carloads of cement; 1150 carloads of plaster and plaster block; 91 carloads of radiators, and 60 carloads of plumbing fixtures. The total weight of material used in the development has been estimated as approximately 660,000 tons — the equivalent of over 25,000 carloads.

The development is roughly planned to be 50% completed by the spring of 1933. The entire development will probably be completed by the end of 1934. The first building to be completed will be the R.K.O. Office Building. Steel work is under construction on the sound theater, the International Music Hall, and the 70-story office building. These theaters and the R.K.O. Building (No. 10) are the ones planned for completion in 1932. The 70-story building wil be completed in the spring of 1933.

CONCRETE FOR HOOVER DAM

Part 2 MIXING PLANT

by
W. R. NELSON

GRAVEL and sand loaded into bottom-dump cars at the screening plant are transported over four miles of railroad to the contractor's concrete mixing plant in Black Canyon. This plant is situated on the Nevada side of the river at the base of the high wall of the canyon and less than a mile upstream from Hoover dam site.

Aggregates from the screening plant are dumped from the cars into separate compartments in the bunkers beneath the railroad tracks, and when required are separately transported an average distance of 450 feet by two 42-inch belt conveyors up a 16° incline to the tipple at the top of the concrete plant. Hoppers with movable spouts receive the material and drop it onto shuttle conveyors which transport it to the designated bin.

The dimensions of the concrete plant are 78 feet by 118 feet in plan, 88 feet in height from truck-loading platform to top of storage bin, and 120 feet to top of tipple. A heavy concrete foundation supports the four 4-cubic yard Smith mixers and is extended westward beneath the structural steel framework of the plant. The top of the foundation for the mixers is at elevation 735, 15 feet above the truck-loading platform. Above the mixers is the control deck and above this the conveyor and batcher floor. The bottom of the 33-foot high storage bins is 9 feet above the batcher floor and the tipple rises about 30 feet above the bins.

The bins at the top of the plant are 6 in number, 3 of which are for gravel, 1 for cobbles, another for sand and the sixth for cement. All are 78 feet wide, and from front to back of the plant 30 feet of the total length of 118 feet is used for cement, 16 feet for 3 to 9 inch cobbles, 16 feet each for coarse, intermediate, and fine gravel, and 24 feet for sand. The bins are of steel frame construction with laminated timber sides and partitions. The walls are of 3 by 8 inch to 3 by 12 inch planks and the floor of 3 by 16 inch planks. The cement bin is covered and is waterproofed on the inside with tar and felt.

Bulk cement, transported by rail from the place of manufacture to Boulder Junction on the Los Angeles & Salt Lake Railroad south of Las Vegas, to Boulder City over the Union Pacific branch line, to the concrete plant, via the United States Construction Railroad and the contractor's line, is elevated to the bins through 6-inch steel pipe by air pressure, the unloading machine resembling a large vacuum cleaner.

Water for the plant is pumped from the Colorado River to a 50-foot diameter Dorr clarifier located on the canyon wall approximately one-quarter mile up-stream from the mixing plant. All silt above 500 parts per million is settled out in this tank, and the water flows by gravity to a 125,000-gallon storage tank situated in a side canyon above the mixing plant.

When the plant is placed in operation, the sand and different sizes of gravel from ¼ to 3 inches are each dropped through an automatically controlled gate into a batch

hopper, termed a "batcher," located below each bin. Doors in the bottom of the batchers are opened in rotation by air-controlled electrically operated devices, the hopper nearest the mixer opening last, and the aggregates are spread in thin layers on a 48-inch belt conveyor leading to a mixer hopper installed above and back of a mixer. When the 3 to 9 inch cobbles are used, they are allowed to pass through a door in the bottom of the cobble bin to an automatically controlled steel belt conveyor and to the cobble batcher. A chute connects this batcher directly with the mixer hopper.

For each mixer, cement runs from the cement bin through four chutes to an automatically controlled double screw conveyor cement feeder placed at the top of the cement batcher. The gate in the bottom of the cement batcher is just above a chute which leads to the throat of the mixed hopper. Water from the storage tank on the hill back of the plant flows to a water batcher through an automatic valve which shuts off the water when the batcher has received its designated weight. The outlet from the batcher leads to the mixer through a discharge valve which is manually controlled.

The automatic controls referred to in the above paragraphs are operated in all cases by the weight of the batcher and its load. The batcher is mounted on the end of a dial scale which connects by a series of levers and balancing weights to mercoid cut-off controls. At the scale, weights are added, dependent on the amount of material desired to be included in each batcher load.

The mercoid controls, installed on the weight end of the system, are electrical switches operated by change in position of a glass capsule containing a globule of mercury. The electrical circuit is broken at two projections inserted at one end of the capsule and the circuit may be closed by lowering the end of the capsule containing the projections, thus allowing the electrical current to flow through the mercury globule. One of the controls is termed the "main flow cut-off" and the other the "final balance cut-off". When the weight of aggregates in the batcher reaches about 95 per cent of the predetermined weight, the swing of the beam, on which the controls are mounted, causes the mercury globule in the main flow cut-off to move away from the two projections, thus breaking the electrical circuit and by means of electromagnetic coils, closing the gate in the bottom of the aggregate batcher by compressed air. The electrical current operating through the mercury globule in the final balance cut-off, by means of a small motor and air valve, alternately quickly opens and closes the gate to allow small amounts of material to dribble into the batcher until the predetermined weight is acquired, at which time the adjusted position of the cut-off beam breaks the contact in the final balance cut-off.

In the system of balance levers, there is a connection by rods to a recorder which registers on a 20-inch dial the visual record of the weighing. Connection is also made from the system to a graphic recording device consisting of a pen tracing on a time constant operated paper roll which is graduated in intervals of weight. The consistency of the concrete and the length of time it was mixed are also recorded on this roll by a hookup with a wattmeter which measures the power used in operating the mixer in question. As the power for rotating the mixer drum varies as the amount of water in this mix, this arrangement indicates the consistency and at the same time shows graphically the period of mixing after all materials were in the mixer. The chart gives a visual image of all operations of the plant and as well furnishes a permanent record of the weight of all materials that are placed in each batch of concrete. Similar visual and graphical recording instruments are employed for measuring the amount of water used, these devices also being operated by weight.

For actual mixing of the concrete, water from the water batcher is started into the revolving mixer. After approximately five seconds, the mixer hopper and the cement batcher gates are opened, allowing aggregates and cement to flow into the mixer drum; thus water, aggregates, and cement enter the mixer together. After all ma-

terials have entered, mixing is continued for a minimum period of 2½ minutes and the concrete is then dumped by tilting the mixer drum.

The concrete pours from the mixer plant through a chute into 4½-yard agitator drums mounted on trucks, or into 2-yard buckets carried by trucks. The agitator is in effect a mixer, which is rotated at intervals as the concrete is being transported in order to retain its consistency and uniform density. The buckets, two of which are transported by each truck, are of bottom-dump type. Rails, set in concrete to provide a smooth roadway for trucks, have been laid below the mixers for later transportation of concrete by railroad cars. At the present time all concrete for lining the diversion tunnels is transported by 10-ton trucks, and rail transportation will probably not be started until pouring has commenced for the dam and power-plant structures.

While one batch of concrete is mixed, another has been discharged into the mixer hopper and the cement and water batchers have been loaded. Thus under capacity operation, using all four mixers, 16 cubic yards of concrete can be manufactured by the plant in 3½ minutes. On this basis, the theoretical capacity of the plant over a 24-hour period would be 6,600 cubic yards.

The concrete plant contains 1,493 feet of conveyors, four 4-cubic yard Smith mixers, two batchers each for water, cobbles, sand and each of the three grades of gravel, and four batchers for cement. Sixteen visual gauges and two plant-operation recorders have been provided. Eight hundred tons of structural steel were used in construction, and the cost of the plant amounted to $351,000 of which sum $103,000 was paid for equipment. The principal power equipment consists of 75-horsepower motors for each mixer and 200-horsepower motors for each of the supply conveyors.

The capacity of the bunkers under the track is 1,500 cubic yards, or 300 cubic yards in each compartment. The two supply conveyors will together transport 1,500 tons of aggregates per hour. The storage bins have a total capacity of 5,400 cubic yards of aggregates and 14,800 barrels of cement.

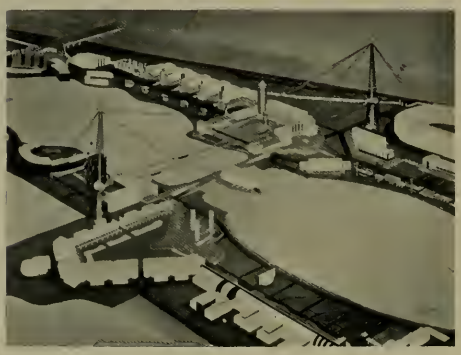
The aggregate proportions in the concrete depend upon the type of construction for which the concrete will be poured and the amount of moisture present in the aggregates. As an illustration, one mix that has been used has a ratio of 2,000 parts of cement, 4,200 of dry sand and 9,400 of dry gravel by weight. The gravel in this particular case was composed of 32 per cent of ¼ to ¾ inch, 32 per cent of ¾ inch to 1½ inches, and 36 per cent of 1½ to 2¾ inches. Cobbles will be used when mass concrete is manufactured for the dam or similar structures.

It is contemplated that concrete for the dam will be transported from the present plant by railroad in 8-cubic-yard buckets. These buckets will be filled directly by the mixers and upon arrival at the dam site will be picked up by a 20-ton cableway and transported to position, and there dumped by trip line. It is anticipated that the dam will be poured to elevation 900 or 935 from the present plant, and that the plant will then be moved to a site on the canyon rim near the end of the United States construction railroad for pouring the remainder of the dam.

Part Three — "Lining the Division Tunnels with Concrete," will appear in THE ARCHITECT AND ENGINEER *for September, 1932.*

"SKY RIDE" WILL BE AN EIFFEL TOWER COUNTER-PART OF CHICAGO FAIR

THE Ferris Wheel of the World's Columbian Exposition of 1893 and the Eiffel Tower of the Paris Exposition of 1900 will have their counterpart in the "Sky Ride" of Chicago's 1933 Exposition.



ARCHITECT'S DRAWING OF "THE SKY RIDE," CENTURY OF PROGRESS EXPOSITION, CHICAGO, ILL.

Contracts have been signed to erect on the grounds of A Century of Progress Exposition, two towers each 600 feet high, 2,000 feet apart and connected by cables carrying cars at the two-hundred foot level. The attraction is designed to give next year's visitors the supreme in the realm of thrills. The "Sky Ride" is expected to cost approximately $1,000,000. It will be a unique engineering and construction feature of the Exposition.

Work has been started on thirty-foot working models, which will be studied for details of design.

One of the 600-foot towers will be located on the mainland at Sixteenth Street between the Hall of Science and Soldier Field and the other across the lagoon on Northerly Island, between the Electrical Group and the States Building. High speed elevators will carry passengers to observation platforms at the tops of the towers—the highest elevation in Chicago, twenty feet higher than the top of the Board of Trade Building, and incidentally 45 feet higher than the top of the Washington Monument.

From this height, under proper atmospheric conditions, visitors will be able to see three states—Indiana, Michigan and Illinois. Spread beneath them like an animated map will be the city of Chicago and the Exposition.

Connecting both towers at the 200-foot level will be two four-cable tracks, on which eight rocket cars will run. These cars will be 33 feet long, of glass and aluminum, and double-decked, with seats arranged lengthwise so that passengers may look outward as the rockets shoot through the space between the towers.

The towers will be triangular in section, gayly painted and ornamented. At night they will be illuminated with brilliant lights. The shafts will be of glass. Flood lights attached to the bottom of the elevators will transform them into rising and falling pillars of colored light.

Colored steam will be emitted in the wake of the cars so as to give them the appearance of vivid rockets hurtling through space. Powerful beacons will be trained upon them during their flight.

Two thousand tons of steel are required for the towers. Another thousand tons of steel will go into the sixteen cables—eight for the two aerial tracks and eight for the supporting cables, including the 600-foot backstays.

SALIENT POINTS IN HOME LOAN BANK ACT

THE following digest of the Federal Home Loan Bank Act, prepared by Neill Davis, secretary of the California Building-Loan League, 649 S. Olive Street, Los Angeles, is reprinted from *Southwest Contractor and Builder:*

ORGANIZATION

Appointment of Board—Authority in the Home Loan Bank System is centered in a Federal Home Loan Bank Board, consisting of five members appointed by the President of the United States. Their importance is comparable with the Federal Reserve Board in the Federal Reserve Bank System.

The first duty of this board will be to establish not less than eight nor more than twelve Federal Home Loan Bank districts.

Each Federal Home Loan Bank will be managed by a board consisting of eleven directors. For the first year these directors will be appointed by the Federal Home Loan Bank Board.

Thereafter the Federal Home Loan Bank Board will appoint two of the directors of each bank with the remainder being elected by member institutions.

The Board has broad powers of examination and supervision over the Federal Home Loan Banks and the member institutions.

In order to equalize the supply of funds, the Board, under certain conditions, has power to compel the Federal Home Loan Banks to shift funds from one bank to another.

The Federal Home Loan Banks

There will be a Federal Home Loan Bank in each district.

The Federal Home Loan Bank Board will determine the capital for each Federal Home Loan Bank with a minimum of $5,000,000 for each bank.

After the country has been districted and other details taken care of, books will be open for subscription for stock by the institutions which are eligible under the Act.

Thirty days after the books have been opened, if the applications for membership do not equal the capital as specified by the Board, the United States Government will subscribe for the remaining stock, but not more than $125,000,000.

MEMBERSHIP IN HOME LOAN BANKS

Who Is Eligible for Membership

Building and loan associations, savings and loan associations, co-operative banks and homestead associations.

Savings banks and insurance companies (all other banks are excluded).

The above institutions are eligible if they are organized under the laws of any state or of the United States and are subject to supervision. However, no institution is eligible if in the judgment of the Board its financial condition does not justify an advance, or if it does not make long-term mortgage loans, or in the case of a savings bank, if the deposits are not such as to justify its making such loans.

Any building and loan association otherwise eligible which is not State supervised may become a member if it subjects itself to such inspection and regulation as may be prescribed by the Board.

No institution may become a member if the net cost of its loans to the home owner exceeds the maximum legal interest rate in the State or the contract rate. If neither a legal rate nor a contract rate is provided by the State law, not more than 8 per cent can be charged.

How to Become a Member

Subscribe to capital stock of the Federal Home Loan Bank in your district.

The amount of this subscription must be at least 1 per cent of the unpaid principal of the subscriber's home mortgage loans, but not less than $1500.

(1) Unpaid principal means the original amount of the loan minus payments on the mortgage or payments, dividends and earnings on stock pledged by the home owner.

(2) A home mortgage is a first mortgage on a dwelling of not more than three families.

Subscriptions are paid 25 per cent upon application and 25 per cent each four months' period until the total is paid.

Associations are eligible to borrow twelve times the amount paid on their stock subscriptions.

Example: If an association has assets of $1,250,000 of which $1,000,000 consists of home

mortgages with an unpaid principal as above described, its stock subscription would be $10,000. Twenty-five hundred dollars will be paid immediately, giving a borrowing power of $30,000. At the end of the year, when the full subscription of $10,000 has been paid, the borrowing power would be $120,000.

Non-Member Borrowers

Associations whose State laws do not permit them to purchase stock in the Federal Home Loan Bank System may become non-member borrowers by depositing such security in addition to home mortgages as may be required by the Board at least equal in amount as the above described stock subscriptions. The borrowing powers of non-member borrowers are the same as those for members.

(1) When any State enacts legislation permitting associations to buy stock in the Home Loan Bank System non-member borrowers in that State must either subscribe to stock or be deprived of the right to borrow. If at the next regular session the State Legislature does not pass legislation permitting the associations to buy stock in the system the bank will proceed to liquidate the indebtedness of the non-member borrowing associations of that State.

(2) No loans to non-member borrowing associations can be made for a period of more than one year, but may be renewed for yearly periods or less.

(3) No loans may be made to a non-member borrower for a longer period than until the end of the next regular session of the Legislature.

Withdrawal of a Member

By giving six months' written notice to the Board.

Indebtedness of such member shall be liquidated.

Capital stock in the Federal Home Loan Bank shall be cancelled.

Provision is made for the equitable return of the member's investment in stock of the Federal Home Loan Bank.

Provision is made for the payment of dividends on stock from the earnings of the banks after establishing adequate reserves.

Member and non-member borrowers may deposit funds with the Home Loan Banks. These deposits are not subject to check and no rate of interest in excess of 2 per cent can be paid on them.

The Federal Reserve Banks may in turn act as depositories for the Federal Home Loan Banks.

Under certain conditions the Federal Home Loan Banks can act as depositories for public money.

BORROWING FROM THE SYSTEM

Long-Term Borrowing

Members and non-member borrowers can secure advances up to twelve times the amount of their stock subscriptions or deposits.

The rate of interest is determined by the Board at the time the loan is made and will be largely dependent on the rates paid on bonds.

Security for Advances

(1) Home mortgages must be put up as security. No mortgages shall be eligible as security if:

(a) At the time the loan is made the home mortgage has more than fifteen years to run to maturity.

(b) The mortgage is more than six months past due when presented.

(c) The value of the real estate mortgaged is more than $20,000.

(2) If the loan was originally made for eight years or more.

(a) The Home Loan Bank may loan up to 60 per cent of the unpaid principal of the mortgage, and

(b) Up to 40 per cent of the value of the real estate securing the mortgage.

(3) If any other home mortgages are put up as security (less than 8 years).

(a) The Home Loan Bank System cannot loan more than 50 per cent of the unpaid principal, and

(b) Not more than 30 per cent of the value of the real estate.

(4) The Home Loan Bank holds the stock of borrowing members.

Policy of repayment of advances will be determined by the Federal Home Loan Bank Board.

Source of These Long-Term Funds

Each bank has power to issue bonds or debentures subject to the approval of the Board.

The bonds or debentures of each bank must be secured by at least 190 per cent in home mortgages.

Interest rates: The Board has power to determine rates of interest paid on bonds. For first seven years rate shall not be over 5½ per cent and thereafter not over 5 per cent.

Tax exempt: Bonds are exempt from local, State and most Federal taxation.

« « « « With the Architects » » » »

LECTURES BY EDWARD GLASS

"The Economic Basis of Real Estate Appraising," is the subject of a new course of lectures to be started September 14 at 8 o'clock by the University of California Extension Division, 540 Powell Street, San Francisco.

Edward Glass, a member of the State Board of Architectural Examiners and Technical Director of the 1931 Joint Legislative Committee on Taxation, will give the lectures.

Recent changes in valuation procedure are such that there has been a real demand for this course, according to Professor Leon J. Richardson, Director of the Extension Division. Lecture topics will be concerned with marginal value; market and intangible value; good will, depreciation, obsolescence, amortization and replacement; the probable useful life of various parts of the plant; valuation of land and buildings for various purposes—financing; taxation, condemnation, insurance and sale.

SUE FOR SERVICES RENDERED

Recently two San Francisco architects brought suit against a Salinas physician to recover architectural fees alleged to be due for plans for a new hospital in that city. One of these architects is Will P. Day, formerly of Weeks & Day, San Francisco. In some way or other Mr. Day's name has been confused with that of W. H. Weeks who had also brought suit against the Salinas physician. Neither architect, however, was in any way associated either in the preparation of plans or in the filing of their respective claims. Judgment in both cases was dismissed on the ground that the plans were not used in the final building of the hospital.

SANTA CRUZ RESIDENCE

Contracts have been entered into for the construction of a two story frame and stucco residence, Santa Cruz, for Dr. Fred P. Shenck of Santa Cruz. Plans for the $8500 dwelling were prepared by C. J. Ryland, architect, Frazer Building, Monterey.

$250,000 APARTMENT BUILDING

H. C. Banmann, architect, 251 Kearny Street, San Francisco, recently completed drawings for an apartment house to be erected at Second and Parnassus Avenue, San Francisco, for A. J. Roesch. The location is diagonally across from the proposed new University of California medical school and out-patients hospital. It will be five stories in front and eight stories in the rear, the site being on a considerable grade. Besides 52 apartments there will be two floors of garage space. The building, estimated to cost $250,000, will be equipped with every modern convenience, including a heating and ventilating plant, electric refrigeration, garbage incineration, two passenger elevators and a sun court.

DEPARTMENT STORE WORK

W. T. Grant Company, 1441 Broadway, New York City, are establishing connections in the leading California cities. In Berkeley the ground floor of the American Trust Company's building at Shattuck and Center Streets, is to be remodeled for the department store company at a cost of $65,000. James W. Plachek is the architect. In Sacramento the Grant Company has leased property at 722 "K" Street from the Wilson Estate and will spend $100,000 on alterations. In Monterey $50,000 will be expended in the construction of a two story and basement steel and brick store building on Alvarado Street.

RESIDENCE CONTRACT AWARDED

The contract has been awarded by Milton W. Morrison, architect, 605-42nd Avenue, San Francisco, for a Mediterranean home in sub-division No. 1, Sea Cliff, for Mr. Lusk. The house and landscape work will cost approximately $13,000.

BRICK VENEER COLONIAL HOUSE

St. Francis Wood, San Francisco, will have a new Colonial home for which plans have been prepared by Harvey E. Harris, 815 Balboa Street, San Francisco. The owner is Dr. Ayer and the cost is estimated at $12,000.

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RALPH C. FLEWELLING has moved his office from 450 N. Beverly Drive, Beverly Hills, to the California Bank Building, 9441 Wilshire Boulevard, Beverly Hills.

HERMAN BROOKMAN has moved from the Yeon Building to the Guaranty Building, Portland, Oregon.

FRANCIS JACOBBERGER, for many years in the Railway Exchange Building, Portland, has moved to the McKay Building.

MARTIN SCHACHT has given up his office in the Spalding Building temporarily, on account of his recent illness.

LINN FORREST, who won the Ion Lewis Fellowship given by the University of Oregon, has returned from his ten months in Europe. With him he brings many interesting notes and sketches of architectural detail from the countries he visited.

JAMES T. NARBETT, architect of Richmond, has been appointed a member of the Contra Costa Planning commission by the board of county supervisors. Mr. Narbett succeeds J. H. Plate of Richmond, who resigned.

WM. CLEMENT AMBROSE, architect, has moved from the Santa Fe Building to 242 Kearny Street, San Francisco, in the Marsdon Building.

H. B. AARENS has moved his office from the Palmer Building, Hollywood, to 7046 Hollywood Boulevard.

SAMUEL E. LUNDEN, architect for the Edward L. Doheny, Jr., Memorial Library, nearing completion on the University of Southern California campus, has returned from the East where he inspected special furniture being manufactured in Cleveland for the library. Mr. Lunden also visited Boston to consult with Messrs. Cram and Ferguson, associated with him on the library project. From Boston Mr. Lunden went to New York City, where he viewed the new Rockefeller Center.

WANT LICENSE FEE REDUCED

Municipal legislation to provide a reduction from $20 to $10 in the license fee paid by Raisin City architects has been voted by the Fresno City Commission after hearing a plea by Rafael Lake, representative of architects of that city, that the fee now charged is unjust in that it is twice that charged other professions.

ARCHITECTS GO FISHING

The August meeting of the Southern California Chapter, American Institute of Architects, was held at the Rainbow Angling Club, Azusa, Tuesday evening, August 9. The affair was in the nature of an outdoor social meeting with trout fishing on the program, for those who enjoy angling.

WINS HONOR FELLOWSHIP

Donald Powers Smith, first holder of the John Galen Howard Memorial Fellowship, left in June for some months in Europe. As this is a matter of note in the annals of the School of Architecture at the University of California, a brief description of both the Fellowship and the holder is volunteered by Warren C. Perry, Director of the School:

The raising of the fund, the income from which has made Mr. Smith's sojourn abroad possible, was begun several years ago by the Alumni of the School of Architecture at the University of California. When Professor John Galen Howard died in 1931 the Fellowship was given his name as a part of a memorial to one who, more than any other individual, has been responsible for the origin and splendid development of the School of Architecture through the past two decades. The greatest credit is due not only to those who set up this fund originally but to a loyal group of alumni and friends whose devoted efforts during the past year particularly have made this recognition possible.

Mr. Smith, the winner, was born in Modesto, California, in 1908. He entered the University of California from the Santa Clara High School and the San Jose Teachers College and registered in architecture, graduating in 1931 with highest honors, having held a State of California scholarship and having made Phi Beta Kappa and Tau Sigma Delta (architectural honor society) while an undergraduate. During the past year he has served as Teaching Fellow in Architecture and was awarded his Master of Arts in Architecture in June. Three bronze medals "for distinguished solution of problems in design", as well as the American Institute medal for the best record at graduation, were other signal honors achieved by him.

This is the written record, but only those who know Donald Smith and have had the privilege of working with him can bear direct witness to his unusual qualities, his taste and versatile originality, his amiability and perseverance; all of which seem to them to point to a future that will bring distinction not only to himself but to the School of which he has been so much a part. When one stops to think what this visit to the Old World will mean to a man of such talents and perception, who has never been away from his near environment, it is difficult, indeed to imagine a better use for the money.

NEW ADDRESS

California State Board of Architectural Examiners, Southern District, are now located in the new State Building, First and Spring Streets, Los Angeles Civic Center.

ARCHITECTS EXHIBIT WORK

To give the Olympic visitors an opportunity to view the architectural achievements of the state, architects of Southern California on July 28th opened their annual exhibition in the Architects' Building, Fifth and Figueroa Streets, Los Angeles.

Members of the Southern California Chapter and all certified architects and landscape architects, were invited to submit photographs and drawings for the display, the number of accepted pictures being limited to five from each architect. The resulting collection presented a complete record of the outstanding architectural achievements of the past ten years.

The formal opening was attended by several thousand architects and leaders in the building industry. The reception committee, headed by Carleton Monroe Winslow, included Roland E. Coate, Winchton Leamon Risley, Claude Beelman, Frank Vigers, Jonathan Ring and Robert Dennis Murray.

The exhibition remained open for the duration of the Olympic Games.

LOS ANGELES RACE TRACK

Messrs. A. R. Walker and P. A. Eisen, Ltd., 507 Signal Oil Building, Los Angeles, are preparing working drawings for a race track to be constructed on the southwest portion of the Santa Anita Rancho in Arcadia for Joseph M. Smoot, 904 Title Guarantee Building, Los Angeles. Construction, which is expected to start this month, will probably be handled on a segregated contract basis under the supervision of the architects. The plant will cover a 207-acre site and will comprise a concrete and steel grandstand, 500 feet long, with seating capacity of 10,000; a three-story clubhouse containing dining rooms, assembly rooms, kitchens and other club features; a turf and field clubhouse containing dining rooms and assembly rooms; employees' clubhouse; paddock building; two dwellings; hospital; and executive office building, all to be Monterey style structures of wood frame and stucco construction.

A QUARTER CENTURY AGO

The *Santa Monica Outlook* notes that "The Southern California Chapter of the American Institute of Architects met last night (July 9, 1907) for dinner in Santa Monica's elegant new Bristol Cafe on Bristol Pier". The following architects were present: A. F. Rosenheim, Fernand Parmentier, Thomas Preston, R. B. Young, S. Tilden Norton, Timothy Walsh, J. N. Preston, Charles H. Whittlesey, Octavius Morgan, John T. Krempel, J. Lee Burton, P. W. Ehlers, C. H. Brown, C. S. Greene, Norman St. Clair, August Wackerbarth, Ed Williams, F. L. Roehrig, E. C. Kent, Robert F. Train, Harrison Albright, Joseph J. Blick.

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« « « Chapter and Society Meetings » » »

WASHINGTON CHAPTER PICNIC

The once a year summer outing of Washington State Chapter, A. I. A., was held in Tacoma, June 25 with a good attendance.

The morning was devoted to the annual Chapter golf tournament for the Clay Products trophy, which, instead of being continued throughout the summer in a series of individual matches, was this year concentrated into a single day's event.

Bright and early in the morning, a caravan of golfers and near golfers left the studio of Arthur Loveless in Seattle, each having promised his wife that he would return with the trophy. At the beautiful Brookdale course right under the shadow of Mt. Rainier, four foursomes struggled all the morning to complete the eighteen holes. When the divots had all been replaced and the handicaps deducted, it developed that James H. Schack and George W. Stoddard were tied for first honors and that Harry Meyers had won a prize for those not Institute or Chapter members.

An additional nine holes had to be played by the winners of the main contest to decide the match and Mr. Schack for the time came out victorious. Later, however, when Mr. Schack heard from his home club at Inglewood, he found that the Golf Club Committee the day before had changed his handicap from 26 to 23. With true sportsmanship he relinquished the cup to George Stoddard, who thus becomes this year's holder.

The golfers had wondered why no Tacoma members participated in the golf tournament. It later appeared that they and their wives had been tremendously active at Point Defiance Park, preparing everything imaginable for the hungry horde that was to descend upon them. Driving into the park the Seattle members found guides stationed at every crossroad and the picnic grounds were soon found. Various informal field events were participated in, a baseball game convincing some they were somewhat older than they thought they were, but aside from one casualty the splendid feast which followed served to revive all participants.

The business session following the supper was called to order by President Holmes at about 7:00 P. M., but was immediately turned over to the Tacoma Vice-President, Ernest Mock. Secretary Gowen being obliged to leave, Mr. Stoddard was appointed secretary pro tem.

The minutes of the last regular meeting were read and approved as was also the report of the treasurer. Correspondence being next in order, a letter was read from Vice-President Harry Weller enclosing a letter from J. Knickerbocker Boyd of the Institute Committee on Public Information requesting enlightenment on the Chapter's position in regard to the expenditure of funds for Public Information and Structural Service in regard to which the Chapter's delegates to the Institute Convention were instructed to take some action. This was referred to the Chapter Public Information Committee.

A letter was read from Roland E. Borhek relative to the organizing of a committee in Seattle for trade recovery to be a part of a national movement of which local committees were already being formed in Tacoma and Spokane. The idea suggested by Mr. Borhek was that with Seattle included there would be three local groups whose representatives would form a State committee as a part of a proposed national organization.

The proposed amendment to the Chapter By-Laws presented at the last meeting, providing for the waiving of the initiation fee and reducing the dues for Chapter Associates, was next given consideration. This proposed change was unanimously adopted, the annual dues being reduced to $5.00 for a term of two years.

An additional amendment was then proposed by Mr. Albertson to amend the by-law provision regarding dues, to include in addition to the tax on commissions, a tax on salaries and consultation fees for professional services received by members in Seattle or for services performed in Seattle. This to be in excess of the first $1,000 of the salary or consultation fee received.

Mr. Young made some interesting remarks on taxation with particular reference to his home city of Seattle where, through neglect in its municipal housework, city warrants to the amount of many thousands of dollars were uncashable. This large sum of unpaid obligations not only spreads a blight upon small retail business, but adds to the general financial confusion and distress.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This Month: Lead, Copper, Steel and Glass Advanced in Price

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 50c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.40 per bbl.
Cement (f.o.b. Job, Oak.) $2.40 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$16.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	55.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple			$100.00 M ft.
1 1-16x2¼" T & G Maple			127.00 M ft.
⅞x3½ sq. edge Maple			120.00 M ft.
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$158 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	95 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

¾-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$80 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $73 to $78 per ton cost of steel; average building, $77.00.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caisson workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

SPOKANE SOCIETY OF ARCHITECTS

Spokane Society of Architects celebrated its founding with a picnic at Granite Point on July 15. Henry Bertelson, Charles Wood, Noel Thompson and Ogden Beeman comprised the committee on arrangement.

At a meeting of the Spokane Society, June 24, Frederic E. Elmendorf of the Spokane Realty Board, spoke on Initiative Measure No. 64, which provides for the limitation of the annual rate of taxation on real and personal property to forty mills. The speaker stated that while no one claimed this measure would solve all our tax problems, it would serve to reduce expenditures which is difficult to accomplish from the top down.

In accordance with a request received through Roland E. Borhek of Tacoma, a meeting to form a Committee for Trade Recovery has been organized as a part of a national movement.

SOUTHERN CALIFORNIA CHAPTER

David Alfaro Siqueiros, associated with the Syndicate of Painters and Sculptors of Mexico, gave an instructive talk at the July meeting of the Southern California Chapter, American Institute of Architects, at the International Institute in Los Angeles, July 12. Senor Sequeiros' subject was fresco painting and mural work.

Entertainment, consisting of dancing, instrumental numbers and singing, was provided by young women representing Russia, Japan and Switzerland.

Elsie D. Newton, executive secretary of the International Institute, briefly outlined the purpose of the Institute and the manner in which it operates.

The program for the meeting was arranged by Sumner M. Spaulding, vice-president of the Chapter.

MAY BECOME GREAT ORATORS

A class in public speaking has been formed in Los Angeles under the auspices of the Architects League of Hollywood. The first meeting was held in the Roy Price Building at 9000 Sunset Boulevard. The class will meet every Monday evening and is open to all architects and anyone interested in developing the forensic art. At the first meeting eighteen members were enrolled. The purpose of the organization is to encourage architects to take a more leading position in all civic affairs. Lester G. Scherer is director of the class.

Among the members who enrolled at the organization meeting are: M. L. Barker, John Fleming, John Roth, R. M. Farrington, J. A. Murrey, Harry B. Aarens, Roy Price, Park French, Lester Cramer, Herbert J. Mann, Lee Kent, Raphael Nicolais, Ray Du Bose, John J. Langdon and Lester G. Scherer.

C. M. WINSLOW HEADS COMMISSION

Carleton M. Winslow has been elected president of the Los Angeles Municipal Art Commission for the coming fiscal year, succeeding Mrs. Jules Kauffman. Mrs. William J. Wilson was elected vice-president, taking the office formerly held by Mr. Winslow.

In approving designs for buildings, structures and art work with a total estimated valuation of $3,349,338 during the fiscal year ended June 30, 1932, the Art Commission considered a greater diversity of subjects than in any previous period since it was established. They included buildings of many types, bridges and viaducts, subways, street lighting standards, mural paintings, sculpture and private structures, erected over public property. The largest single building project was the $450,000 plenetarium in Griffith Park; John C. Austin and Frederic M. Ashley, architects.

SCHOOL OF ARCHITECTURE

A school of architecture, Roy Seldon Price, director, will be opened in the Roy Price Building, 9000 Sunset Boulevard, Los Angeles. The school will offer a complete course in design for the beginner, as well as courses in advanced design for men of greater experience. Courses will include history, office and business practice, rendering, home planning, interior decoration, etc. Special instruction, embodying subjects covered by state examinations, will be offered those seeking state certificates.

BURNHAM VICE PRESIDENT

Election of Daniel H. Burnham, architect of Chicago, as vice president and member of the architectural commission of A Century of Progress is announced by Rufus C. Dawes, president of the Exposition.

Since 1929, Mr. Burnham has acted as director of works of the Exposition and has had direct charge of construction activities. Election as vice president will permit a broadening of his activities with the Exposition.

REGISTERED ARCHITECTS OF PORTLAND

Ernest Kroner, Portland, Oregon, has been elected president of the Registered Architects of Oregon. J. E. Wicks, Astoria, is vice-president, Ellis F. Lawrence, Portland, treasurer, and Margaret Fritsch, Portland, secretary.

PLUMBING FIXTURE NOVELTY

The constantly increasing demand on the part of the fair sex for convenience in the home, has resulted in the Excelso Products Company of Buffalo, New York, developing a new type of equipment for the dressing room, termed the New Lady Luxury Vanadoir. It is a combination dressing table, lavatory and cheval mirror, all in one piece ready for installation. It is designed for installation in the boudoir, bathroom, dressing room or wherever such an unusual convenience could be best used. Its manufacturers consider it one of the most practical pieces of plumbing furniture ever created for women.

Full particulars as to the many styles and color combinations may be obtained by addressing the manufacturer at Buffalo, New York.

ARC WELDING ARTICLES

California was well represented by winners in the recent Lincoln Arc Welding Prize Competition, for the best articles on arc welding. The first prize of $7500 has been awarded to Lieutenant-Commander Homer N. Wallin and Lieutenant Henry A. Shade of the Navy Yard, Mare Island, who jointly submitted the paper on "The Design and Construction of an Art Welded Naval Auxiliary Vessel."

Third prize of $1500 was awarded to H. H. Tracy, structural engineer for the Southern California Edison Company, Los Angeles, whose subject was "The Application of Arc Welding to the Design of Steel Buildings for the Resistance of Earthquake Forces."

WILL TRAVEL IN EUROPE

With the degree of Master of Science won from the Massachusetts Institute of Technology, Graduate School of Architecture, added to his degree of Master of Fine Arts obtained in the School of Architecture and Allied Arts in the University of Oregon, Abbott Lawrence, son of Ellis F. Lawrence of Portland, departed for Europe recently. He will travel and study in England, Holland, Belgium, France and Italy, returning to Portland next year.

EIGHT MONTHS ABROAD

Henry H. Hodgson, architect of Seattle, who maintains a studio at 2930 Harvard Avenue North, has returned to his customary haunts after spending eight months in Europe, accompanied by Mrs. Hodgson. The trip was made primarily for business and study in England, Wales, France, Italy, Portugal, North Africa and the Azore Islands. In the last named locality Mr. Hodgson did considerable sketching.

NEW LIGHTING SYSTEM

The Voigt Company of Philadelphia has recently announced the development of a revolutionary lighting system said to be the closest approximation to daylight obtainable. It is effected by the use of a specially designed fixture in combination with the General Electric vapor lamp tubes.

If the plans of this company are successfully consummated, it will mean that they will have a display in the San Francisco showrooms of the Pacific Gas & Electric Company and the General Electric Company. Arrangements have been made with Leo Kaufmann of the Keese Engineering Company, 557 Market Street, San Francisco, to handle the technical phases of the system.

"POT O' GOLD"

Gunite Foundries Corporation has entered the building specialty field with the placing on the market of a safe consisting of nine hundred cubic inches of storage space, known as the Guncor "Pot O' Gold".

The descriptive material details this safe as being made of a non-drillable, non-breakable and non-crushable metal. It has been designed to meet the needs of gas stations, business houses and home owners for the protection of money, valuable papers, jewelry, etc. It can be installed in a wall, floor or square of concrete.

Other details may be obtained by communicating with the Gunite Foundries Corporation, Rockford, Illinois.

WASHINGTON UNIVERSITY AWARDS

Awards in the Department of Architecture, University of Washington, were made at the conclusion of the academic year as follows: The medal of the American Institute of Architects to Albert E. Hennessy; medal of Alpha Chi Rho, the honorary architectural fraternity, to Henry J. Olschewsky. In the Charles H. Bebb competition, the first prize was awarded to Minoru Yamasaki; second prize to Redmond Stout, and third to Jack Sproule. On account of economic conditions, no award of a traveling scholarship was made this year.

MR. WILSON'S WORK SHOWN

Recent work of G. Stanley Wilson, architect of Riverside, was featured in a special exhibition held in the Architects Building, Fifth and Figueroa Streets, Los Angeles, the latter part of July. Photographs, color renderings and pen and ink sketches were included in the display. Of special interest in the group were the renderings of the recent addition to the Mission Inn. Interesting views of the Casa de Anza, Riverside's newest hotel or guest house, were also shown, as well as several schools, public buildings and residences.

NORTHERN CALIFORNIA CHAPTER

The regular monthly meeting of the Northern California Chapter, the American Institute of Architects, was held at the St. Francis Hotel, San Francisco, Tuesday evening, May 31.

Mr. Sperry entertained the members with several groups of vocal selections.

Throughout the evening, attention centered mainly upon the Honor Award Exhibit of the Chapter held in the M. H. deYoung Museum, San Francisco.

Mr. Jeans was called upon for the report of the Jury and its selection of buildings for award.

Before rending this report, Mr. Jeans announced that the Jury had come upon several buildings, not entered, which it believed were worthy of an award.

Following discussion, it was voted that the awards be limited to buildings actually entered in the exhibit. The report was made accordingly.

Mr. Weihe referred to the excellence of the architectural renderings in the exhibit and directed special attention to the drawings of the Paramount Theater by Miller and Pflueger, and of the Golden Gate Bridge by Irving F. Morrow.

Mr. Evers, President of the State Association of California Architects, spoke of the reaction of the Association with respect to the approval by the Institute of the plan for Unification.

The request of the Federation of Arts for approval of proposed amendments to its by-laws was referred to the Board of Directors.

Fred Cramer told of his experiences in Washington in connection with the plans of new buildings for the Capitol grounds.

Mr. Ashley asked the members to give prompt consideration to the proposed height limitation of buildings in certain areas of San Francisco as requested by the Real Estate Board and to submit their suggestions in this matter to him.

CALIFORNIA FEDERAL BUILDINGS

Here is a list of California Federal Projects included in the $300,000,000 "Emergency Relief and Construction Act of 1932", which became effective July 23 last:

Benton Field, Alameda: Completion of shops, including assembly and test hangars, dope storage, heating and engine test block, $605,500; depot warehouse, $500; administration building, $80,000; railroad spur, $8,000; quartermaster's warehouse, mantenance and salvage building, $35,000; garage, $48,000; fire and guard house, $30,000; pier, $125,000; paint, oil and dope storage and oil reclamation, $35,000; gasoline-storage system, $20,000; paved aprons, $80,000.

Fort Mason, California: Officers' quarters, $110,000.

Fort Winfield Scott: Noncommissioned officers' quarters, $140,000.

Hamilton Field: Headquarters and operations building, to complete, $35,000; improvement of landing field and building area, $120,000.

Hamilton Field: Officers' quarters, $215,000; noncommissioned officers' quarters, $120,000.

Letterman General Hospital: Two wards, $150,000.

March Field: Barracks for medical detachment, $25,000; contagious ward for hospital, $12,000; bakery, $15,000; laundry, $60,000; enlisted men's service club, $50,000; officers' mess, $50,000; theater, $40,000.

March Field: Gasoline-storage system, completion of, $10,000; aircraft-bomb storage, $5,000.

Presidio of San Francisco: Noncommissioned officers' quarters, $60,000; addition to headquarters, $50,000.

Rockwell Field: Hangars, $576,000; Air Corps warehouse, $80,000; operations building, $20,000; remodeling a permanent building for radio, parachute, and dope storage, $15,000; gasoline-storage system, $30,000; paved aprons, $95,000; central heating plants, $100,000; improvement of landing field and technical building area, $100,000; camera obscura, $5,000; bomb storage, $15,000.

Rockwell Field, Noncommissioned officers' quarters, $234,000; officers' quarters, $266,000.

MODERN ARCHITECTURAL TREND

William F. Lamb, distinguished architect of New York, asked to write something about the trend of Modern Architecture, replied, "I haven't, for, as a matter of fact I do not think it is very important just what road it is going to take, as long as we are honest and intelligent and not too self-conscious about directing it. I believe in spite of what I have said about certain aspects of it that it has gotten back on the track again during the past few years and will stay there, but its ultimate destination may never be known until long after we have reached it."

WELDED STEEL WINDOW GUARD

The Accurate Metal Weather Strip Company of 210 East 26th Street, New York City, announce that "Shur-Loc window guard" manufactured by the Shur-Loc Window Guard Corporation of 216 East 26th Street, New York, will be put on the market nationally in a short time.

Shur-Loc is an electrically welded steel window guard which is designed to fit against window runways with expansion locking bars, locking with a key. Some interesting pamphlets are being issued from the above address.

MAN VERSUS MASS

By WILLIAM ADAMS DELANO, F. A. I. A.

WHILE still in Paris, the February issue of the *T-Square Journal* was forwarded to me. Its receipt reminded me that for over a year you have been asking me and I have been promising to write an article for its pages. Writing is a form of expression which does not come easily to me and I have procrastinated. Now on my way home I have found time, not only to read the *Journal* from cover to cover, but to reflect, and the memory of what I have seen in European cities and what I have just read have created such conflicting emotions that, in spite of myself, I feel compelled to write the long-promised article.

The advanced ideas presented in that issue are only typical of hundreds which appear in newspapers and architectural magazines. Anything I may write, therefore, is not directed at the *Journal* particularly but at a general trend.

On my trip I visited London, Paris and Rome and the two things which struck me most forcibly in all of these cities were: First, the way in which the great monuments, the spiritual expressions of the people, stood out—raised their heads above their surroundings—and second, how much light and air there was in these cities with their lower buildings and open squares and parks. Coming from New York, where I crawl in shadow from place to place feeling like a worm, I began to hold up my head, and once more felt like a human being. These qualities, if they have such an effect upon a stranger, surely must have an unconscious one upon the mentality of the natives. In Rome especially I was struck more than ever before by the importance in which man held himself, as expressed in brick and stone—a selfish expression, perhaps, but one so grandiose that man and his works almost reach the sublime. No "eleven foot six floor to floor" height for the Roman; he thought so well of himself that no building was too big, no ceiling too high, no decoration too magnificent to suit his purposes.

Still seething with these impressions of man's dignity as expressed in his material surroundings, I took up the *Journal* and read how much happier in the new era now dawning man would be—living in skyscrapers standardized apartment houses, each apartment reduced to the minimum, and spaced equally between standardized gardens, or how much more contented living in sanitary, machine-made homes which, when shabby, he could scrap, together with his Ford car, along the roadsides of Long Island. After centuries of struggle to evolve a culture worthy of his position in the animal kingdom, is this to be man's end? No better, no worse than the insects — ants and caterpillars he thought he had outdistanced in the race? I wonder?

Anyone with eyes in his head and a sense of justice in his heart cannot fail to be stirred when he sees the slums of the great cities. No matter what the cost to Capital, these *must* be wiped out or our civilization is not worthy of the name, but is the remedy only to be found in condemning mankind to live in standardized beehives and ant hills? Cannot more of the "advanced" architectural thought be spent, now that we have improved and improving methods of transportation, upon the idea of growing horizontally rather than vertically, or is that not spectacular enough? Five or six years ago the Regional Plan of New York and its Environs was responsible for the statement that if New York City were built at an even level —the high buildings reduced and buildings erected only on unimproved land reserved for building— Manhattan Island would be but four and one-half stories high. I do not know what the average height limit would be today but I feel confident not so high as the six and one-half story average of Paris. We must face the fact that the skyscraper, America's contribution to architecture— wonderful as it is—has become an intolerable nuisance for which the greed of the landowner, our absurd system of taxing real estate and our lack of consideration for the rights of the other fellow are responsible. Whatever the inconveniences and drawbacks of an extended city as opposed to a concentrated one, man would not be so utterly out of scale with his surroundings; he would not become a caterpillar with a caterpillar's mentality.

It is probably too late to save New York City. Even today we are plunging ahead with our eyes shut, and building such colossal pieces of imaginative (or had I better say unimaginative) folly as Radio City. If this group of buildings were the most efficient and beautiful in the world it would still be folly to erect it on its present site, for its very size tends to shrink the capacity of the city and add to its inconvenience.

I fear that what I am writing will fall on deaf ears; it is but a parting shot at this mechanical civilization which seems to be advancing as surely and relentlessly as the ocean tide. What the so-called "Modern" architects say — and they are very articulate—and the pictures they paint—and they are very alluring—is news and is given a publicity out of all proportion to the value of the thought contained. Almost never has what they propose been thought out with any more reference to the nature and dignity of man than was the 18th Amendment by our legislators. With our magazines and newspapers what they are today this is inevitable—there is no news value in the old, only in the new and spectacular—but it seems to me that those of us who are not carried off our

feet by this "ballyhoo," who are sincerely convinced that we are drifting toward a condition where humanity is threatened by the machine and its liberty jeopardized, owe it to our felllow-citizens and our profession to speak out.

It would require much space to go into a discussion of the kind of thing the modern architectural thought is producing; besides, while the fever is on it would be futile. For all its much-vaunted "functional" originality, it is but a poor copy of what is being done better abroad. Monotonous stripes as substituted for monotonous columns. I see no greater artistic value in copying something that was done yesterday than something that was done two centuries ago. Are we not deceiving ourselves? By jettisoning all the old forms we do not necessarily produce something original or worth while. There is as much that is new to be said in architecture today by a man of imagination who employs traditional motives as there is in literature by the author, who, to express his thought, still employs the English language. Where we have most often gone astray in this country is in slavishly copying what our European ancestors have done instead of telling our own story in our own way. We are "sick to death" of the conventional styles and in our anger want to throw everything overboard. It is not imagination, but lack of imagination which brings us to this pass.

It is fun to dream dreams, and I am sure that those who indulge the habit are having a wonderful time today, with all the publicity that is being showered upon them. Without dreams the world would not progress, but could not some of this "advanced" dreaming be directed towards a civilization which conceived of men as individuals? This has always been America's boast. Must we follow blindly Russia's leveling experiment before it has been more fully tested? The skyscraper has gone to our heads. Instead let us take to our hearts the lesson of the great American "bubble" of mass production, and mass everything, which has so recently been pricked, and as architects give less thought to material bigness and more to the dignity of human life and thought and its power to shape man's destiny.

(*From the May issue of* SHELTER *under the title "At a General Trend."*)

$60,000 COUNTRY HOUSE

P. H. McCarthy, former labor leader in San Francisco, will replace his burned country home in Los Altos with a new residence from plans by Edward E. Young, architect, 2002 California Street, San Francisco. A contract for the brick structure has been awarded to R. A. McLean & Company, 602 California Street, San Francisco, for approximately $60,000.

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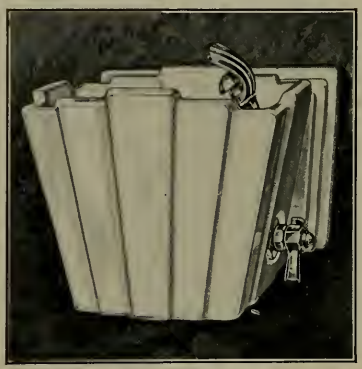

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THE BAY BRIDGE

Final details of the San Francisco-Oakland bay bridge have been approved by the consulting board of engineers. The west channel crossing, which is to cost $35,000,000, will be built first.

The west bay structure, which is the portion by which San Francisco and Yerba Buena are linked, calls for two spans of 2310 feet each, four spans of 1160 feet and a center anchorage to which the cables from both the island and the city side are fastened.

Four huge piers—two 505 feet above high water and two feet in height—will rise above the water's surface, in addition to the center anchorage, which will be 300 feet above high water. The Russ building, tallest in the city, is but 418 feet.

The two towers will be 70x140 feet. With fenders, the overall dimension will be 100x180 feet. Two smaller towers will be the same dimensions, with the exception of being 45 feet less in height. Each of the four towers will be topped by airplane beacons, with navigation lights marking clearance and fenders.

The center anchorage, to which the cables from each side structure will be secured, will be 110x220 feet, and will rise 300 feet above the water and extend 210 feet below water level.

Bedrock foundations have been found for each of the piers and the center anchorage, according to Chief Engineer Charles H. Purcell.

This structure will be connected with the East Bay structure by a single-bore tunnel through Yerba Buena island. This tunnel will be approximately 500 feet in length, 70 feet wide and 50 feet high.

The East span, which links the tunnel with the East Bay shore will be the second largest in the country, being 1400 feet in length, with a vertical clearance of 185 feet above high-water levels. This crossing will be of the vertical cantilever type.

With formal application for Federal financing now on file it is Purcell's hope that detailed contracts and specifications, together with the fiscal setup, will be ready for filing with the Reconstruction Finance Corporation this month.

ENGINEERS AID RELIEF PLANS

State committees of the American Engineering Council throughout the country will aid in carrying out the provisions of the Emergency Relief and Construction Act of 1932, called the most important measure from the standpoint of engineering and employment with which these committees have had to deal since they were organized last year to mobilize the engineering profession behind President Hoover's program to overcome the depression.

The Council, representing 62,000 professional engineers, has sent to the chairman of each com-

mittee a communication explaining the purposes of the Act and urging immediate and effective co-operation. The committees will work with government agencies in relieving destitution, in recommending loans for self-liquidating projects, and in obtaining employment for engineers in public works construction.

The Council's communication, which briefs the provisions of the Act for the guidance of the committee, says:

"In the event there is want and destitution in your community or state which cannot be relieved by the state and local authorities through the usual channels, the Emergency Relief Act authorizes the Reconstruction Finance Corporation to loan to the various states for this purpose up to $300,000,000. This relief can only be obtained through the governor of the state.

"Title II of the Emergency Relief and Construction Act provides for loans under certain conditions for self-liquidating projects. This portion of the bill should be studied carefully. A procedure for securing loans will be fixed by the Reconstruction Finance Corporation.

"Title III of the Emergency Relief Act provides for a limited amount of public works construction which has already been authorized, but for which no appropriation had been previously made. There is set forth below the nature of the work, the amount of money to be expended and the name and address of the person with whom you should communicate in the event that any engineers of your state are interested in securing employment under these provisions.

"1. Emergency highway construction, $120,000,000. Communicate with highway commissioner of your state.

"2. Roads, trails, bridges, fire lanes, etc., in national forests, $16,000,000. Communicate with Horace M. Albright, director, National Park Service, Interior Building, Washington, D. C.

"3. Prosecution of river and harbor projects, $30,000,000. Communicate with division engineer, North Atlantic Division, 60- Army Building, 39 Whitehall Street, New York City, or District Engineer, United States Engineers Office, postoffice box 960, Buffalo, N. Y.

"4. For flood control projects, $15,500,000. Communicate with district or division engineers' officers, U. S. A. (as above.)

"5. Air navigation facilities, $500,000. Communicate with Col. Clarence M. Young, assistant secretary for aeronautics, Department of Commerce, Washington, D. C.

"6. Construction and equipment, lighthouse tenders and vessels, $2,860,000. Communicate with George R. Putnam, commissioner, Bureau of Lighthouses, Washington, D. C.

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"8. Bureau of Yards and Docks, Navy, $10,000,000. Communicate with Rear Admiral A. L. Parsons, chief of Civil Engineers of the Navy, Navy Department, Washington, D. C.

"9. Building construction outside District of Columbia, public buildings, different kinds, $100,000,000. Communicate with Perry K. Heath, assistant secretary of treasury, Washington, D.C.

"10. For construction, installation at military posts of buildings, utilities appurtenances, $15,164,000. Communicate with Maj.-Gen. J. L. DeWitt, quartermaster general, Munitions Building, Washington, D. C., or commander of the post where the construction is to be done.

"The provisions of this act open up opportunities for relief of unemployment and it is hoped your committee will take advantage of such opportunities as are applicable to your state."

FROM CABIN TO SKYSCRAPER

[The Walworth Log]

From the Footsteps of Civilization have come the tread marks of architecture. The history of cultural development within the human race is definitely embedded in the expression of its style of building construction. From behind the misty curtains of antiquity to the present more familiar period, whether the story be a tale of advancement or decadency, each architectural style has borne the social, religious and artistic influences of its particular people.

In our own intimate history, when a structure has been erected, the composite personality of a definite American group has been put into tangible form. From the landing of the Pilgrims and the coming of the early settlers of the original thirteen colonies, through the various stages of pioneering in the Middle West and Far West, the architecture of these periods most certainly bespoke the trend of thought of those early settlers.

First settlers were without funds or equipment other than their own hands, and their sole thought concentrated on means of making their livelihood. Their buildings, of necessity, were constructed for utility, efficiency and practicability. The resulting general architecture of the United States in those early years was extremely crude and was marked by simplicity of design. And this so-called early American architecture has had a definite and lasting effect upon the architecture of the nation.

In more recent years foreign ideas have influenced American architecture, for we find many

notable examples of the Greek, Roman, Gothic, Byzantine and other styles. All of which are exceedingly elaborate in detail, expensive of construction, and do not generally produce structures in accord with American ideas of efficiency. It is evident, however, that our architects, having studied the Greek, Roman, Byzantine and Gothic as the four great types of architecture, would naturally show the effects of their training in the production of America's buildings. Unquestionably we shall always feel the effects of these foreign influences, but the necessity for utility, efficiency and practicability, calling for simplicity in design, which are the outstanding features of American buildings, will continue to dominate our architecture as long as we continue to be a progressive pioneering nation.

The skyscraper—"Why do they have to build such tall buildings when there is plenty of room for more buildings of moderate height?" asks the man in the street. The question is answered in part by an interesting point in American business efficiency. We have come to recognize that the more people one can put on a given area—consistent with health, ease of movement, light, air and accessibility—the more business can be transacted in a given length of time. Spreading a city to a moderate height over a large area fails to accomplish as much as building to a maximum height over a limited area. Where business is crowded into a small area, it naturally follows that land values will increase tremendously in that area, hence, if the land owner is to obtain a return on his investment, he must construct a building to a height that will provide sufficient rental space to assure him an income that will return a profit commensurate with that investment.

These two reasons alone would not necessarily force our buildings to the tremendous heights they are being built. Where many large buildings are grouped in a comparatively small area, problems of safety, health, light, air and fire protection immediately appear. In New York City, the birthplace and home of the skyscraper, these problems were not at first apparent, as evidenced by the so-called canyon streets of lower Manhattan. Rapid progress has been made and a careful study of the situation by the city government brought about the zoning laws which provide for safety, health, light, air and fire protection to the greatest possible degree.

These zoning laws place a limitation upon the heights of buildings based upon the width of the street. The maximum height allowable on the street line in any district is two-and-one-half times the width of the street. This at once eliminates the dark canyon street. Greater heights are pro-

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vided for by means of set backs. In the two-and-one-half times the width of the street district, for every foot of set back from the street line, five feet additional height may be added to the building. The laws also provide that a tower may be constructed above the maximum height on the street line to any height, provided the area of such a tower does not exceed 25% of the area of the lot.

Thus these laws definitely provide for a substantial base structure and at the same time secure the maximum of light and air. It is at once apparent also that these laws have a tendency to force builders to go higher in order to obtain sufficient floor area to insure proper financial returns.

The skyscraper had its origin in the United States. From the preceding paragraph it is evident that American pioneering and the ever-present demand for efficiency, utility and practicability, gave birth to the need of tall buildings. The skyscraper is an efficient and practical structure and bespeaks the trend of thought of the American people. Its massive simplicity is its outstanding charm, just as simplicity has always been the charm and predominating factor in American architecture.

TRIBUTE TO GEO. A. POSEY

In memory of the late George A. Posey, engineer and surveyor of Alameda County, who died from the effects of inhaling exhaust gas from his automobile, the East Bay Engineers' Club voted a message of condolence which was forwarded to the engineer's widow, Mrs. Ethel Posey.

The message, as prepared by Harold F. Gray, secretary of the club, is as follows:

"Conscientious, able and just; scrupulously honest in thought, word and deed; courteous and kindly to all; admired and respected by those who worked with him and for him; honored by the engineering profession for his great technical and administrative ability; loved by his friends, to whom he was loyal; his works will survive to testify to the thoroughness, competence and integrity of his design.

"In him the people of Alameda county have lost a faithful public servant, and the East Bay Engineers' Club a valued and beloved member. To his bereaved family we extend our sincere sympathy in their great loss. May a valid pride in his distinguished career in some degree assuage their anguish."

HOTEL ALTERATIONS

Extensive alterations and remodeling has been started on the Hotel Sacramento, 10th and K Streets, Sacramento. The owners will spend about $50,000 in improving the hostelry. William E. Coffman is the architect.

INSTITUTE TO SEND OUT SPEAKERS TO ADDRESS CHAPTERS

Special sessions of state legislatures should be called at once to promote slum clearance and low cost housing, it is declared by Robert D. Kohn of the American Institute of Architects who is heading a nationwide movement to eliminate the lethargy and the misunderstanding which is said to exist regarding the use of Federal funds under the Emergency Relief and Construction Act of 1932.

With financial aid provided by an anonymous donor, speakers will be sent to address meetings of the Institute's Chapters throughout the country in an effort to combat conditions which, he asserted, threaten to prevent the betterment contemplated by Congress in the work-relief provisions of the Emergency Act.

Restrained by fear of taxpayers' revolts, states and cities, Mr. Kohn charged, are failing to respond to the urgent necessity for starting work which will increase employment, improve city areas that are now a social menace, and lessen the severity of the depression among the workers. Taxation, said Mr. Kohn, who is a past president of the Institute, is not a factor in this situation as the loans which may be had from the Reconstruction Finance Corporation are for self-liquidating enterprises.

A unique national opportunity to improve living conditions, and to ameliorate the plight of cities which arose in an era of "rugged individualism", frequently accompanied by ignorance in development, will be missed if action is not taken before the coming winter, according to Mr. Kohn, who pointed out that the federal government is interesting itself for the first time in low cost housing and slum clearance promises "to make history".

Only New York State, he said, has a housing commission. A bill for the creation of a commission is now before the Pennsylvania legislature. In attempting to influence other states to establish commissions, Mr. Kohn is acting as the representative of the Committee on the Economics of Site Planning and Housing of the Institute. He is also enlisting the assistance of the Committee on Trade Recovery of the Construction League of the United States. Mr. Kohn is president of the League, which, organized last year, comprises nineteen groups of the construction industry, with more than 100,000 members and representing billions in capital.

"It is surprising," said Mr. Kohn's statement, "to find how little the public appears interested in the potentialities of the legislation making funds available to states and municipalities through the Reconstruction Finance Corporation for direct relief and for public works construction of certain

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kinds. No less astonishing is the misinformation current as to the purposes of this legislation.

"The federal loans for self-liquidating public works construction, housing and slum clearance were primarily intended as a work-relief measure. It would be deplorable, indeed disastrous if we failed to take immediate and complete advantage of the opportunity for relief thus afforded in every part of the country.

"The supporters of this movement to start up such public works before the coming winter have been met by the argument that it runs counter to the countrywide propaganda for reduced taxation, for economy in government, for drastic curtailment in city and state expenses. That notion is absurd. Actually, only those public works projects can be considered which are independent of taxation.

"For the first time we have an incentive for wise long-time planning in public works and for an exploration of real needs in the matter of low cost housing. Most important of all, it makes possible the employment of a large number of men in self-respecting, useful, constructive work instead of in foolish, puttering 'made' work programmes. It cannot entirely replace the need for direct cash relief, but to the extent in which it does it will be an unmitigated blessing.

"It has been estimated that every dollar paid in wages for useful and needed work in a time of depression is of double use since it not only reduces unemployment but increases consuming power by a turnover of from six to twelve times the initial amount.

"It is astounding that as yet the passage of this bill has hardly awakened any interest among municipal and state officials. They may be afraid to propose even the most necessary work at present through fear of reprisals by organizations of citizens crying 'tax reduction', 'no more bond issues', 'no more school buildings', 'cut down education costs', 'no more roads', 'no more of any kind of spending'!

"It is true that the real estate interests in most cities are particularly hard hit by the depression, and feel the burden of high taxes more than ever. But real estate has profited for years from the prevailing land speculation.

"Some of the properties now in trouble have been 'milked dry' by their owners, who have done little to avoid, if indeed they have not encouraged, the congestion from which they profited. Many old city areas are now utterly run down; their buildings are neglected after their real usefulness is over, and their present state is not an asset but a social menace.

"But even if all of the protests against taxation were the protests of innocent sufferers, as some undoubtedly are, they have no bearing on the situation we have to face. There is an urgent need to get ready at once to employ workers on constructive and socially desirable works of self-liquidating nature such as are envisaged by the federal act just adopted. Taxation will not be affected either way.

"In the encouragement of projects for low cost housing and slum clearance, the Emergency Relief and Construction Act of 1932 is likely to make history. Never before, except indirectly, has the federal government shown the slightest interest in this nationwide problem. We know, to our sorrow, the result of leaving the growth of cities and the living conditions of their workers to the 'rugged individualism' of its frequently ignorant and generally narrow-minded 'developers'. The results of this process are well known. It is as if public education had been left in each state to be supplied by the lowest bidder, he in turn to make his profit on 'all the traffic would bear'.

"It is hoped that states and municipalities will at least start to explore the possibilities of reforming their blighted areas and providing decent living quarters for the lower income groups, heretofore forced to take the left-overs, the inadequate, insanitary housing abandoned by the better-offs.

"Even where state legislatures are not in session, and may not need for some time, municipalities may have in some cases the constitutional power to act.

"But everywhere studies ought to be started in preparation for legislative action. At the request of the Construction League and as a help towards such studies, a Committee of the American Institute of Architects has prepared a document for general distribution called 'Principles which it is Recommended should be Embodied in a State Housing Law'.

"It is believed that this will be found useful to those who wish to awake local interest in studying housing conditions and slum clearance possibilities. The forty or more state organizations of the Committee on Trade Recovery of the Construction League and all of the chapters of the American Institute of Architects have received copies of this document.

"Moreover, a fund has been provided which will make it possible to send speakers, well informed on the subject of housing studies, to the local Chapters of the American Institute of Architects which may need outside help to interest their communities in the study of local housing condition."

MEDICAL SCHOOL HOSPITAL

A contract has been awarded to Lindgren & Swinerton, Inc. of San Francisco, to build an eight story and basement Class A medical school and out-patients building at Second and Parnassus Avenue, San Francnsco, for the Regents of the University of California. Their contract amounting to a sum in excess of $300,000, is exclusive of the heating, plumbing and electrical work. William C. Hays is the architect.

MORGAN HILL RECREATION CENTER

A one story and basement hollow tile and stucco recreation center will be built on the State highway near Morgan Hill, Santa Clara County. The design is Spanish, the plans being by A. W. Storey, architect of Watsonville. R. H. Hencken of Morgan Hill is the owner of the $25,000 building.

"CRYSTAL ETCHED"

The American Rolling Mill Company of Middletown, Ohio, has just completed a new product, a contribution to the porcelain enameling industry. This product is an enameling iron known as "Crystal Etched". This firm has some descriptive matter on its new product that will prove attractive to the profession and others interested in porcelain ware products.

HONOLULU RESIDENCE

W. W. Wurster, architect, 260 California Street, San Francisco, has completed drawings and bids have been taken for a $35,000 residence at Diamond Head, Honolulu, for W. P. Balding. Harry S. Bent of Honolulu will act as resident architect.

RESIDENCE WORK

Several houses have been designed in the office of Miller and Warnecke, Financial Center Building, Oakland. One is an $18,000 home in Ross and another is an English dwelling in Lake Shore Highlands for N. R. Bogart.

SAFEWAY STORE

A one story Class C store building and parking space is being built at College avenue and Russell Street, Berkeley, by the K. E. Parker Company, owners. They have leased the building to the Safeway Stores, Inc.

STORE BUILDING

The Hagstrom Food Stores have taken a lease on a new one story brick store building under construction on Main Street, Walnut Creek, Contra Costa County. William E. Milwain is the architect and Louis De Martini the owner.

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JULY BUILDING SHOWS INCREASE

Fully half of the 25 Pacific Coast cities reporting largest volume of building permits for July showed an increase in activity over June, 1932, although total building permits for this group continued to decline according to the monthly survey prepared by S. W. Straus & Co.

The 12 cities on the Pacific Coast showing an increase in building permit volume over June, were Vancouver, B. C.; Spokane and Longview, Washington; Portland and Astoria, Oregon; Pasadena, Torrance, Santa Monica, Pomona, Monrovia, and Santa Barbara, California, and Reno, Nevada.

Four of these 25 ranking cities reported increases over July, 1931. They were Longview, Wash., Astoria, Ore., and Monrovia and Torrance, California.

Permits from these 25 cities in July, 1932, totalled 3,996,919 compared with 4,180,538 in June, 1932, and 13,925,802 in July, 1931.

The following tabulation shows building permits July, 1932, compared with June, 1932, and July, 1931.

City	July, 1932	June, 1932	July, 1931
Los Angeles	1,011,811	1,045,918	3,751,072
San Francisco	616,409	810,226	1,828,473
Vancouver, B. C.	232,810	126,650	660,910
Portland, Ore.	211,335	160,195	952,610
Longview, Wash.	179,450	2,060	6,120
Long Beach	161,950	309,290	384,160
Oakland	137,323	221,238	484,350
San Diego	101,478	121,139	342,735
Pasadena	81,441	76,522	177,806
Seattle, Wash.	76,465	494,085	2,183,065
San Jose	74,700	246,240	122,410
Monrovia	64,345	8,925	19,710
Sacramento	63,824	105,120	277,211
Santa Monica	62,200	22,721	86,513
Tacoma, Wash.	52,610	74,370	258,065
Berkeley	52,146	94,775	158,473
Pomona	46,357	20,998	50,072
Beverly Hills	43,325	79,775	520,911
Torrance	41,437	2,790	9,560
Reno, Nev.	37,150	23,800	99,050
Fresno	34,938	36,700	73,014
Alhambra	28,900	30,725	111,800
Spokane, Wash.	28,291	24,080	383,985
Santa Barbara	28,135	27,965	86,317
Astoria, Ore.	28,089	13,511	6,410
Total	3,496,914	4,180,538	13,925,802

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VETERANS' MEMORIAL BUILDINGS

Plans have been completed by William Coffman, architect, Forum Building, Sacramento, for a $40,000 Veterans' Memorial building at Benicia. The structure will be two stories, concrete and will contain an auditorium and club rooms.

A Veterans' Memorial building is also planned for the town of San Leandro, drawings to be prepared by Henry H. Meyers, architect of San Francisco.

PALO ALTO POST OFFICE BUILDING

Plans are being figured and bids will be opened at Washington September 21st for a new Post Office building in Palo Alto from plans by Birge M. Clark of that city. Other Federal buildings for which plans have been completed and bids are being taken are Oroville, Marysville, Vallejo and Napa.

BRICK SCHOOL BUILDING

Paul Dragon and C. R. Schmidts, architects, Mercantile Bank Building, Berkeley, are completing plans for a one story brick veneer school building for the Ben Lomand School District in the Santa Cruz mountains. There will be two large classrooms.

LOFT BUILDING ALTERATIONS

Extensive alterations are in progress to a four story loft building at 58 Fremont Street, San Francisco. The owner of the property is Webster Jones who will lease the entire building to the Yawman-Erbe Manufacturing Company.

TWO MODESTO BUILDINGS

Plans for two new buildings at Modesto have been completed by R. G. De Lappe and V. Oglou, 374-17th Street, Oakland. One will be a one story frame market and the other a two story mortuary. The owner of the latter is Carl Shannon, who expects to spend on the improvements $50,000.

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STATE ARCHITECT'S OFFICE

Twenty of the fifty-two Sacramento employes of the California State Division of Architecture will go on a three-day week September 1st and eleven will be discharged before the first of the year. Seven of these are slated for dismissal September 1.

These facts were disclosed recently by Colonel Walter E. Garrison, state director of public works. He said "it is possible" that other engineering employes of the state department of public works may be placed on a three-day week later on.

"The architecture division employes will lose half of their salaries because Governor Rolph was so anxious to alleviate unemployment last year that he had the state pay more than $200,000 to private architects for jobs that normally would have been done by the state employes.

"No work," was the reason assigned by Colonel Garrison for the decision to cut the employes' working week, and pay, in half.

"We either had to lay off about twenty employes," he said, "or go on a split-week basis. The employes themselves voted in favor of the latter."

Colonel Garrison admitted many employes of the division have been discharged during the last few months due to lack of work.

Colonel Garrison said he did not know how long the split-week would be in effect, but said there

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was not enough work in sight at present, "unless some additional building work is ordered by the next legislature," to give full-time employment to the architectural staff "for several months."

The decrease in the staff of the architect's office was forecast last year during the legislature when protests were made against the administration's plan to have private architects prepare plans for 29 state buildings.

⁂ ⁂ ⁂

LAWS 4,000 YEARS AGO

Will J. French, director of the California State Department of Industrial Relations, has been encouraged at discovering that the laws his department enforces are reasonable and even mild compared to similar laws of 4,000 years ago.

The department's June reports to the Governor's Council, edited by Mr. French, indulges for the first time in ancient history, being a translation of the building accident code of Hammurabi, "head man" of Babylonia in 2,200 B. C. or thereabouts. The document was found in a brick in the Babylonian ruins. The code follows:

"If a builder build a house for a man and does not make its construction firm and the house which he has built collapse and cause the death of the owner of the house, that builder shall be put to death.

"If it cause the death of the son of the owner of the house, they shall put to death a son of the builder.

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"If it cause the death of a slave of the owner of the house, he shall give to the owner of the house a slave of equal value.

"If it destroy property, he shall restore whatever it destroyed, and because he did not make the house which he built firm and it collapsed, he shall rebuild the house which collapsed at his own expense.

"If a builder build a house for a man and do not make its construction meet the requirements, and a wall fall in, that builder shall strengthen the wall at his own expense."

"Which shows," comments Mr. French, "that the early fathers didn't mince matters."

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Henry J. Brunnier, member of the bridge consulting board, impressed this upon members of the San Francisco and Oakland Rotary clubs at a luncheon meeting at the Palace Hotel.

Illustrating his talk with lantern slides, Mr. Brunnier expressed his belief that the bridge will pay for itself in twenty years, and estimated that income for the first five years will be more than double the interest charges.

"There is every reason to believe," he added, "that the Reconstruction Finance Corporation will finance construction, for in Congress the bridge was held up as a model example of the self-liquidating projects which the corporation is authorized to assist. The corporation, we believe, will purchase the bonds at a better figure than we could obtain in the open market, and we are heartened by

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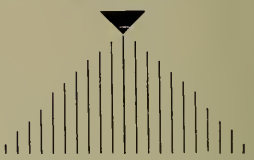

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an additional fact—that the bridge can be built cheaper today than it could have been built several years ago, and cheaper than it can be built five or six years from now."

Mr. Brunnier pointed out that in 1915 the number of vehicles crossing the bay between San Francisco and Oakland was 364,000, and that in 1930 this number had advanced to 4,500,000. In addition 35,000,000 commuters crossed the bay in 1930.

"We have conservatively estimated," he continued, "that the upper deck of the structure can take care of transbay traffic for the next ten years, and the bridge, with both decks, will be able to handle traffic for the next forty years.

"In discussing traffic I have no doubt you have heard the whispering campaign to the effect that because of bridge grades interurban electric trans operating now in the East Bay cannot use the span; that they can operate up to the bridge but will then be forced to transfer passengers to trains especially built for it. This is untrue. Transbay electric trains can cross the bay on the bridge without any change or transfer.

"Furthermore, the crossing will be effected with a pronounced saving in time."

After explaining and picturizing various engineering features of the bridge, Mr. Brunnier appealed for a continuance of cooperation between San Francisco and Oakland that work on the project may be expedited.

"Our State Supreme Court," he asserted, "has reruled on the bridge authority, and there are no legal difficulties ahead. The plans have been approved by the War Department. Congress has granted the permit. The right to use Yerba Buena island has been granted. The Reconstruction Finance Corporation is more than interested in the project. If we continue to cooperate, as we have in the past, the time for the bridge to rise from bay waters is near."

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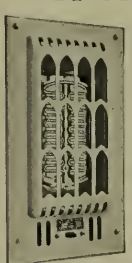

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NATIONAL CONFERENCE ON CONSTRUCTION

National Conference on Construction will hold a General Assembly in Washington, D. C., this autumn.

Invitations to attend will be extended to delegates from trade associations, building congresses and other groups. It is expected that about fifty groups will be represented. In addition to the architects, engineers, general and subcontracting groups, material suppliers, realtors, investment and mortgage banking and surety groups will be invited.

A recent meeting of the Executive Committee clearly showed that sufficient progress has been made by the fact-finding committees to warrant holding a General Assembly of the Conference this autumn.

Emphasis was laid on the lack of an adequate plan for the industry in regulating demand and supply of construction, which it was felt had resulted in the present over-building and consequent stagnation of construction.

Acting upon the suggestion of E. J. Russell, President of the American Institute of Architects, close contact with all building congresses will be continued by the Conference. It is hoped that the Conference may render valuable service to various building congress activities and to the building congress movement. The Conference will assist in the formation of other building congresses and similar inclusive local construction groups in communities feeling the need for them.

CONTRACTORS LICENSES SUSPENDED

Col. Carlos W. Huntington, California State Registrar of Contractors, has suspended the licenses of three contractors following investigation of charges of violation of the state contractors' law, the safety laws and the compensation insurance laws. One contractor was also accused of abandonment of contract and diversion of funds.

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The three contractors are, to quote Col. Huntington:

"Lee Roy Cade, formerly of Sacramento, but now reported in San Diego, charged with violation of the labor laws and failing to carry compensation insurance for his employees. Cade failed to appear in answer to a subpoena.

"Dave Allen, Chico, formerly of Sacramento. Allen was under investigation for alleged abandonment of contract and diversion of funds on a construction project in Sacramento and assertedly failed to appear at a hearing before Glen V. Slater, deputy registrar, in Sacramento.

"Jack Shaw of Sacramento, charged with violation of state safety and labor laws, and failing to protect his employees with compensation insurance. Shaw failed to appear in answer to a citation to show cause why his license should not be revoked, but subsequently surrendered his state license."

CHICAGO CHOSEN 1933 CITY

The tenth annual convention and show of the oil burner industry will be held in Chicago at the Hotel Stevens during the week of June 11th in conjunction with the opening of the "Century of Progress", according to an announcement by Morgan J. Hammers, president of the American Oil Burner Association.

"In view of the fact that the oil burner is a product typical of those which mark America's 'Century of Progress'," Mr. Hammers said, "it seemed entirely fitting to our directors, after reviewing the wishes of our industry as a whole, that the oil burner industry should celebrate the tenth anniversary of its public shows coincident with the opening of this great international exposition."

The recent injunction granted by the district supreme court in White Plains, N. Y., against the City of New Rochelle, on July 6, invalidating an allegedly unreasonable oil burner ordinance was

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hailed by the directors, Mr. Hammers said, as "another of a series of important test cases which foreshadow the eventual elimination of restrictive ordinances all over the country."

"Unreasonable and loosely drawn ordinances such as the one invalidated in New Rochelle," Mr. Hammers pointed out, "whether they have to do with oil burners or the products of other industries not only have served to slow up building construction by increasing the cost to the public but also are costing the industries of this country many millions of dollars a year in their effort to meet this situation. We hope the time is not far distant when a group of business trade associations may make a common cause of the local ordinance situation and be in a position to educate the public that obsolete or unreasonable ordinances are as deterrent to civic development as bad roads and high taxes."

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THE ARCHITECT AND ENGINEER

SEPTEMBER 1932

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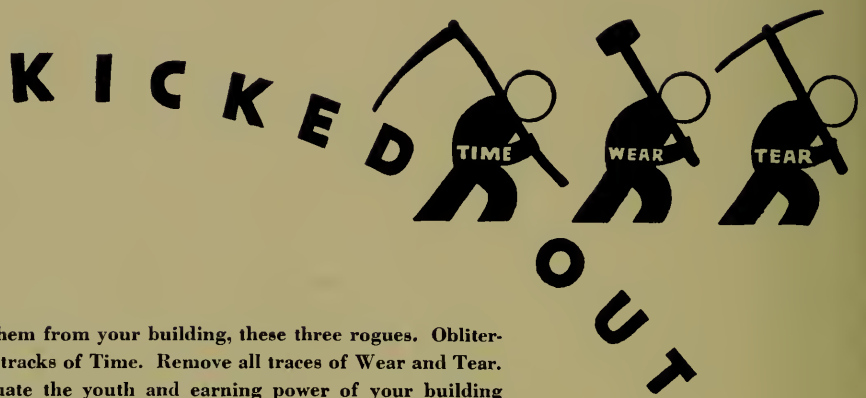

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Thumb Tacks and T-Square

"WHO Pays for the Blueprints?" is a question we hear propounded quite frequently of late. A trade journal addressed a somewhat similar interrogation to the Secretary of the American Institute of Architects who submitted the query to T. E. Snook, chairman of the Institute's Committee on Contracts. The inquiry and the answer are given herewith without comment. First the inquiry:

Plumbing and heating contractors in a fast-growing number of cities throughout the country advise that they now are being asked to pay for blueprints of jobs on which they are invited to submit bids by local architects.

Prices for these sets of blueprints range from $5 to $25.

In certain instances it appears that the architects have sold as high as 75 sets of blue prints to as many different contractors in various branches of the building industry.

The conventional and ethical practice of asking contractors to make a deposit when plans are delivered to them by architects for estimating purposes and with such deposits being refunded by the architects to the contractors when the blueprints are returned, seems to be undergoing an evolutionary process.

We are very much interested in this matter in behalf of plumbing and heating contractors and we would appreciate any information you will be good enough to give us concerning the attitude of The American Institute of Architects toward the practice of some architects who insist on a flat fee for the outright sale of blueprints to contractors who are asked to estimate on proposed construction jobs.

And here is Mr. Snook's reply in part:

The matter you refer to of payment for blueprints, either outright or as a deposit by contractors who receive them for estimating purposes, has never been officially discussed by the Institute, as it has never seemed necessary to do so.

I do not believe that an architect should sell blueprints to contractors for estimating purposes. On the other hand, he is not supposed to furnish more than a certain number, depending upon the size of the job, say six or a dozen sets for estimating. Should the owner require estimates from an unusually large number of contractors, I believe that the owner and not the contractors should pay for these additional sets of prints, as undoubtedly he expects to derive some advantage from the competition arising from the large number of bidders.

There are, however, cases in which a contractor, after he has been awarded the job, desires more sets of blueprints of his work than the architect judges to be necessary, in which case it is certainly fair to charge him the cost of these sets which are additional to those given him by the architect.

It is also, I believe, unusual to even require deposits, but in some cases I know it has been done for the purpose of making sure that drawings and specifications are returned to the architect in good condition, in which case the whole of the deposit is returned to the contractor.

Finally, the architect's services are for his client, and for which he is paid, by his client, and it is certainly unethical for him to endeavor in any way to make a profit from contractors on drawings and specifications for which he should be fully paid by his client.

⁂ ⁂ ⁂

ANOTHER California boy is making good as a delineator. Carl Westdahl Heilborn, a native of Astoria, Oregon, is now in Hollywood and has been turning out some remarkable material for architects in the southern part of California. *Pencil Points* recently devoted some eight or ten pages to young Heilborn's work and in the same issue Ellis F. Lawrence, distinguished architect of Portland, Oregon, wrote that having had Carl Heilborn both as a student and as an employee, his fine work in the field of delineation had convinced him that "a new star is rising in the Zenith."

To quote further from Mr. Lawrence:

"As a student at the University of Oregon, Heilborn refused to surrender to grades, honors, or degrees. He was there primarily to learn his job. He had no time to dilute his training with the hodge-podge curricula usually taken by college students. He wanted content, not superficial information. He demonstrated the cultural value in mastering his subject and there are few subjects that, if mastered, will not give real education which, if the writer is correct in his thinking, means the full use and development of one's brain power and one's emotional life. Such education, once it is really started, never stops until nature closes her doors, if she ever does! The winning of mastery in one field opens new vistas along the way—new obstacles to conquer, and the horizon ever widens. Such, it appears, is the education of Carl Heilborn.

"Recently, at the request of his old school, Heilborn sent a collection of his work for exhibition.

"The exhibition displayed a sweeping power that catches inner meanings along the way. Not only is composition good, pattern charming, line subtle as the web of the spider or firm as steel, and texture velvety or solid, but the sun of the Southland shimmers and blazes, the shadows are cool and enticing, the breeze plays in whimsical ways and the people are real bone and muscle—alive. Architecture lives by itself for what it is, but its lure as seen by Heilborn is tied closely to the men and women it serves, the men and women who built it by toil and sacrifice, answering the age-old urge to express themselves in sticks and stones, steel and concrete, bricks and terra cotta. This quality he may have won more by instinct than by conscious thought, but certainly few of Heilborn's interpretations are without it. Architectural education is justified when the Heilborns learn from it such an ardent love of architecture that they spend their lives in bringing its beauty to the world.

"Heilborn's art does not stop, however, with architectural subjects. His fine decorative sense is even more clearly shown when he handles the cactus, black against the receding planes of desert hills, or the great logs stranded on the shores of the river, from the drive or the freshet.

How seldom one finds such strength, harnessed with such decorative finesse! Force, directness, realism, follow the one, as delicacy and subtlety follow the other.

When these meet, blend, and strike the nice balance, like the breeding of the Ionic and Doric strains in a Greek civilization, something unusual may be expected and the art world has a right to anticipate much. In technique, Heilborn is versatile and direct, suiting it to the subject and media. He shows no fumbling—no uncertainty, and is swayed by a rare sense of values from which comes a dramatic but simple expression of the theme."

Some of Mr. Heilborn's etchings and sketches will be presented to ARCHITECT AND ENGINEER readers in an early issue, and here is a suggestion the young delineator makes to the Editor which may be followed one of these days. Architects what do you think of the idea?

"For their initial and main purpose (showing the client, etc.) architects perspectives and studies are quite sufficient, but for showing the completed structure in its actual surroundings they lack in realism. And certainly a photograph is more logical. But, it has always seemed to me that if some realistic drawings were made out of doors or even from photographs of the completed buildings they would be of great interest to the architects as I think most of them have a decided fancy or preference for drawings. They could be made, say, with the lithographic crayon, a medium full of 'richness' and reproducing exceptionally well."

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Martin J. Rist, Architect

Frontispiece — GARDEN VIEW, RESIDENCE OF MRS. LESLIE MOORE, Atherton
Martin J. Rist, Architect

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Next Month

Some of the interesting features will be an article and photographs of the Lincoln Shrine at Redlands, California, by Elmer Grey; the Santa Barbara School for Boys, Carpenteria, Reginald D. Johnson, Architect, and a portfolio of pictures of Scripps College, Claremont, Gordon B. Kaufmann, Architect.

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GARDEN VIEW, RESIDENCE OF MRS. LESLIE MOORE, ATHERTON, CALIFORNIA

MARTIN J. RIST, ARCHITECT

THE
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ARCHITECTURAL PRACTICE AND THE WORK OF MARTIN J. RIST

By
JULIAN C. MESIC

"As all buildings are seen, society has a right to demand that none be ugly; the life of the community requires that none be unsafe or dangerous to health; social economy requires that they be not wasteful of space or ill-suited to the purpose for which they are created. Every building is to some extent a public matter—even a private house. No building should be erected that is not an attractive addition to the landscape. A well-designed building is a more economical investment. No owner, however gifted in other ways, no contractor, however skilled, can design and build the simplest house equal in beauty, utility and cost to one completed under the guidance of a trained architect.

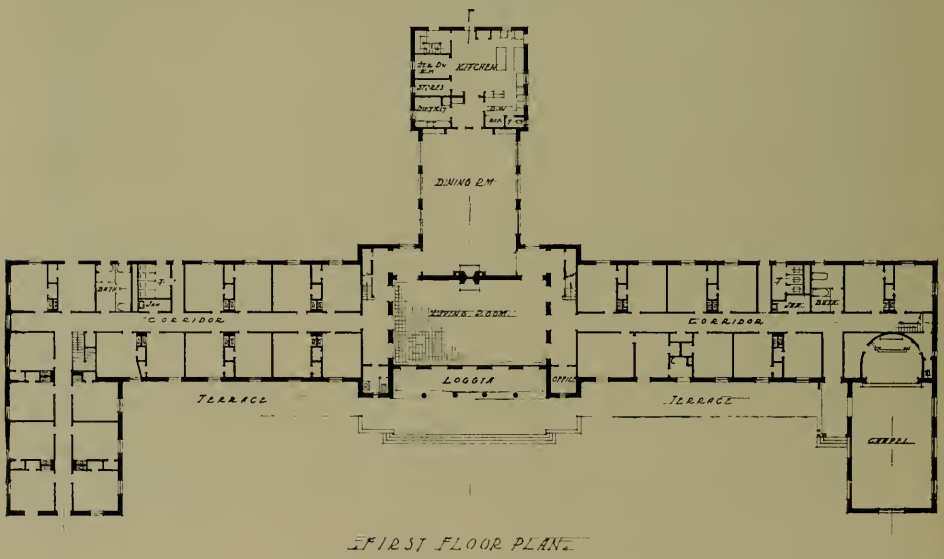
"An architect should have a fundamental knowledge of his art as an expression of beauty, of structural requirements and of practical design and planning. The practice of architecture requires business executive ability of a high order. Inasmuch as the owner's financial interests are deeply involved in the architect's action, the integrity of the latter must be above question. The development of a well equipped architect demands long and careful study and preparation."

A mature architect's work assumes characteristics which one recognizes as individual. The demands of various clients, with their varying needs, artistic and otherwise, call forth a multiplicity of facts—each recognizable as from the same hand.

The process of viewing a particular architect's work, as here illustrated and as found in reality, emphasizes this. The finding of the maintenance of a uniform standard of excellence led to a search for the reason. Under English, Spanish or Italian influence the product was equally delightful and adapted to modern living. Forms were well matured, carefully and satisfactorily placed, invariably raising the work to outstanding distinction in its neighborhood.

Summation left the conviction that a general law was operating through his work. Only by the best, as we know it, in architectural practice, can such results be uniformly produced. Hence, we sought the

UNIVERSITY MOUND OLD LADIES' HOME, SAN FRANCISCO
Martin J. Rist, Architect



PLAN, UNIVERSITY MOUND OLD LADIES' HOME, SAN FRANCISCO
Martin J. Rist, Architect

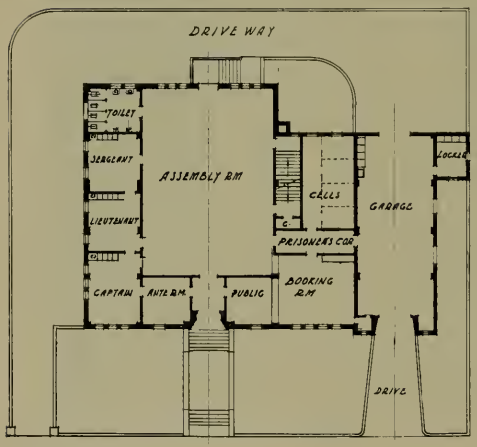
Photo by Moulin

Port Costa Select Common Brick

UNIVERSITY MOUND OLD LADIES' HOME,
SAN FRANCISCO

MARTIN J. RIST, ARCHITECT

TARAVAL POLICE STATION, SAN FRANCISCO
Martin J. Rist, Architect



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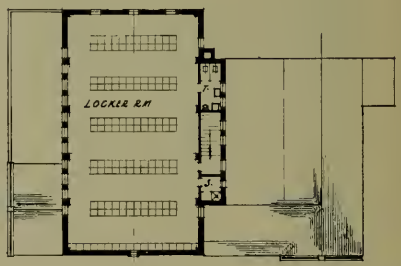


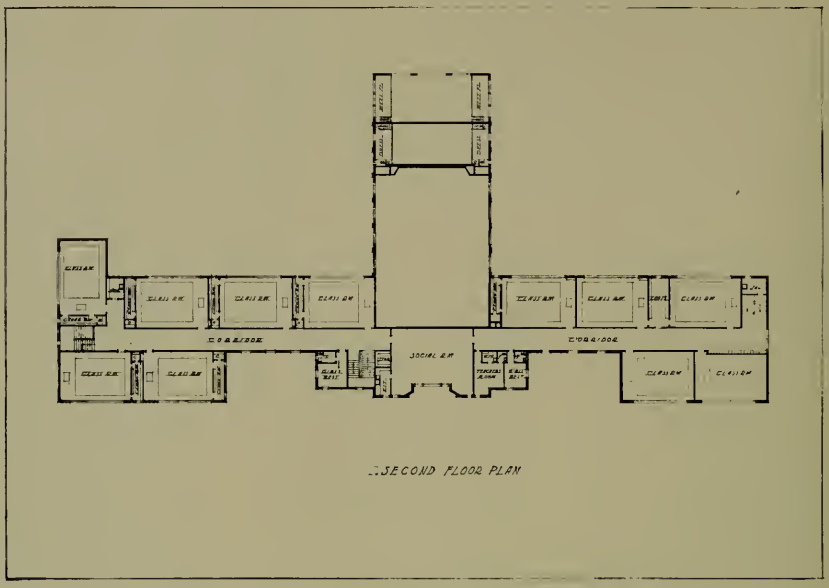
. SECOND FLOOR PLAN.

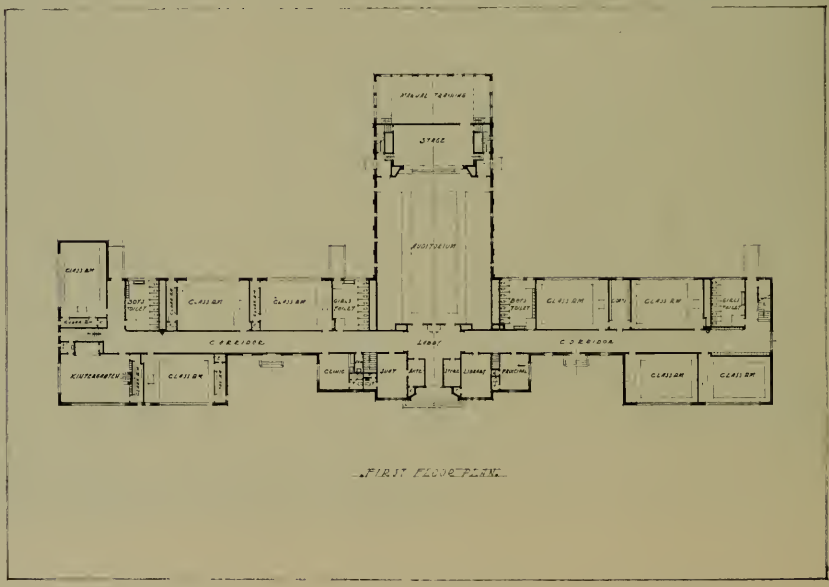
PLANS, TARAVAL POLICE STATION, SAN FRANCISCO
Martin J. Rist, Architect

Photo by Moulin

ENTRANCE DETAIL, TARAVAL POLICE STATION, SAN FRANCISCO

MARTIN J. RIST, ARCHITECT





PLANS, McKINLEY SCHOOL, REDWOOD CITY, CALIFORNIA
COFFEY AND RIST, ARCHITECTS

enunciation of the profession's ideals of practice as printed above from the "American Institute of Architect's" circular of "information to those outside the profession of architecture who are interested in building".

This A. I. A. Document, No. 186, obtained from their National Headquarters in Washington, D. C., contains more of interest. Aside from a description of an architect's academic and practical qualifications, he "must be familiar with the history of architecture, with the various "styles", and with such allied arts as sculpture, craftsmanship, interior decoration and landscape design."—

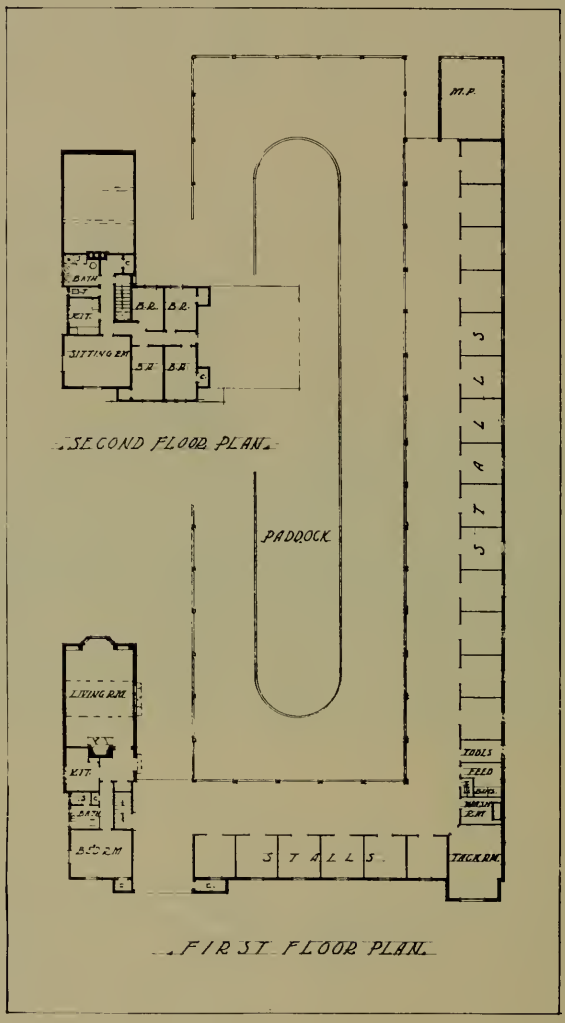
"Certain buildings require special ability in exterior design, they must primarily be beautiful. Others require special knowledge of particular methods of construction. Still others require technical familiarity with the peculiar uses for which they are erected.

"Therefore the owner should consider the natural tendencies, training and special experience of the architect he proposes to employ for a specific type of building."

Then we find a discussion of "The Duties of the Architect and of the Owner"

McKINLEY SCHOOL, REDWOOD CITY, CALIFORNIA
Coffey and Rist, Architects

—"Reasons for Employing an Architect" —"The Architect's Charges and the Cost of the Work" and further "The Selection of an Architect", ending with—"The custom of asking for preliminary sketches before making a selection and therefore before serious study of the problem can take place, is deplored and condemned. An architect should be selected with the same careful consideration of his work and reputation as an attorney or physician. When this is done, those who build reap the benefit by actually receiving full value



PLANS, POLO STABLES FOR LINDSAY HOWARD, BERESFORD, CALIFORNIA

MARTIN J. RIST, ARCHITECT

POLO STABLES FOR LINDSAY HOWARD, BERESFORD, CALIFORNIA
Martin J. Rist, Architect

POLO STABLES FOR LINDSAY HOWARD, BERESFORD, CALIFORNIA
Martin J. Rist, Architect

for the funds they expend and the public at large is benefited in more beautiful and more useful buildings."

Other expressions have been printed about the work of architects. Some of the most satisfying have been the views of leading architects, published in "Pencil Points". Most are very humble—realizing the vastness of the field of architecture and human limitations. All believe in the necessity of devotion to service and art—a selflessness, placing the good of the work above personalities.

* * *

These thoughts take us back to the stories we know of various fine buildings in our country where the costs of study and restudy of the plans reduced profits to "barely enough to treat the crowd to smokes". From such a group of devotees, came Martin Rist—working in the San Francisco office of William Curlett, architect, soon after the "fire", and attending the Architectural Club with many others who have and are leaving their impression on the city for its betterment and refinement—and our pleasure. Later he designed "Villa Montalvo" at Saratoga, for Senator Phelan, and the home of Edwin Christenson at Easton, California.

TACK ROOM, POLO STABLES FOR LINDSAY HOWARD, BERESFORD, CALIFORNIA

Martin J. Rist, Architect

We would not be impelled to link professional ideals, and his work, were it not the product of the only dependable system by which fine and thorough work is invariably produced in many offices. The solution of plans, the massing of the parts of the building, the placing of openings to gain rhythm, harmony and lovely detail,

LIVING ROOM, POLO STABLES FOR LINDSAY HOWARD, BERESFORD, CALIFORNIA

MARTIN J. RIST, ARCHITECT

are definite, necessary steps, requiring endless experiment on paper, and devotion to art as well as business. This is *its* characteristic.

The important fact is, that, no matter what the influence, the solution is consistent, leaving one satisfied that within the limits, the best scheme is presented, or the —not that the sculptor is thus freed from work—by no means—his is to give zest to line and form, surface and recess—his to make vital and effective in relief or the "round".

This care by the architect, is no reflection on the builder or craftsman. Modern construction has become so exacting that

HOUSE FOR ERWIN E. RICHTER, ATHERTON, CALIFORNIA
Martin J. Rist, Architect

nicest shapes have been used for bay or balcony, beam or panel. The morticing of rails into posts in the paddock of the polo stable is an example—pleasing to the eye and structurally strong for weather or use.

Open ceilings, showing rafters are often found in work designed by Mr. Rist. English ones of plaster panels, moldings and figures, and Italian ones of carved wood, leave nothing to be desired, when the occasion demands them. Wrought iron, when used, is caressingly detailed and craftsmanly executed. Modeled work in ornament is completely drawn for the sculptor the designing and actual building can seldom be satisfactorily handled by one and the same person—projects are too complex —but it does emphasize the need of a competent designer with fine perceptions, coordinating all factors.

Were we willing to take a hundred years to construct a church, or several years to build a house, we could do nicely with past systems and craftsmen. Instead, we are engaged in a so-called "modern" period of unprecedented innovations, striving to artistically use machinery and new materials. Methods must be new—and accord-

ing to the President's Conference on Housing, radically different, if we are to meet today's demands.

We find examples of decidedly "modern" designs by Mr. Rist, in store and public buildings. The Psychopathic Hospital and its adjoining building, for the City and County of San Francisco are such, though not yet executed—other work showed taste with freedom of thought guided by a nice sense of fitness.

LIVING ROOM, HOUSE FOR ERWIN E. RICHTER, ATHERTON, CALIFORNIA
Martin J. Rist, Architect

"Your culture is the awakening of your consciousness to the meanings and value of a life habitually taken for granted", says Charles Gray Shaw of New York University. Yet how often are we led to wonder the status of the world's culture, in building! How many realize the import of Dr. Anna Mills' statement that, "disease is often an uncarved statue or unwritten play"?

The urge to possess beauty, execute beautifully, and live beautifully ("like princes") is deeply seated and fundamental. Art soothes us, stimulates us, broadens us! Architecture, as a part of, and, a form of art, is a *daily* necessity. Why place such a monetary value on building as is being done today? The general idleness of the past few years would have produced marvels of fancy, yet we became fearful and quit producing. We dried up our imaginations—and thus the world is living in older, drearier shelters—what have *we*, or any one else gained? We attend operas, theaters, expositions, for joy. Why not build for it? What shall we do with our time, anyhow? We cannot save it!

A good work lives on, long after the circumstances of its building. To create richly requires force and devotion. The compensation of a well ordered city, estate, home, business, or industry is a tremendous satisfaction to all who contact it.

HOUSE FOR ELWOOD C. BOOBAR, HILLSBOROUGH, CALIFORNIA
Martin J. Rist, Architect

LIVING ROOM, HOUSE FOR ELWOOD BOOBAR
Martin J. Rist, Architect

In form, the result is a blend of all one can wring from material. The color and texture of wood, brick and stone are each made to speak far more than shelter. Lightness of color may suggest light, freedom—softness and smoothness of grain, youth; sturdy oak, strength and ruggedness; harder woods, dignity, power, dependability. Wood, then becomes life's pigment—it contributes to ones mental and spiritual sustenance.

Simple wholesome things, may have their niche which architects of Mr. Rist's type, gracefully incorporate, even to building feminine furniture with concealed drawers, adjustable mirrors and delicate moldings. We find him detailing everything, moldings, window frames, cupboards, leaving nothing to the mills' withering concept of economy. Buildings are designed on all sides—nothing is left to chance even on kitchen entrances.

We do not find great expanses of repeated ornament, but necessary things are

Photo by Ernest Schoenfeld

HOUSE FOR EDWIN C. PORTER, HILLSBOROUGH, CALIFORNIA
Martin J. Rist, Architect

deftly done, with a full blooded sense of well being. A point of interest is embellished, as the entrance of the Taraval Police Station. And, speaking of appreciation, the modeler of this was highly praised. We hope he signed his work. People *are* interested in who did what—signatures should be more general, says our librarian.

So we could continue, finding the small things, which total destinction in Mr. Rist's work. He is truly a part of that great school of American architects who know their field, who know and do, give their work care and thought leading to superiority—finding a fine way to embody the personal requirements of the client, for whom the system exists.

Man's wants are the artist's opportunity! From rainbarrel to weather vane, from cottage to castle, industry to towering steeple, there *are* problems. Shall aimlessness or trained wit decide them?

To the Owner, belongs *this* decision—most vital to all.

HOUSE FOR EDWIN C. PORTER, HILLSBOROUGH
Martin J. Rist, Architect

RESIDENCE OF MARTIN RIST, SAN FRANCISCO, CALIFORNIA
MARTIN J. RIST, ARCHITECT

ARCHITECTURE AND FINANCE—TAX THE SURPLUS

by
WILLIAM LEE WOOLLETT
Architect

THE history of art and architecture affords a key to many interesting questions relating to present day problems of finance, because art and architecture at any given period reflect the potencies which determine man's physical, mental, and spiritual status.

Mussolini is reported to have been questioned by an interested American of force and perspicacity, "How do you keep your place?" "We read history," was the answer. "What Caesar did, we do." "What Caesar did not do, we refrain from doing." Whether such a conversation ever actually occurred, does not matter. Patrick Henry said, "I know of no way of judging the future but by the past."

From the history of art and architecture, we learn that man has at various times risen to the pinnacle of prosperity, commercially, and enjoyed the luxuries of pomp and splendor co-incidently with the creation of great works of architecture. These buildings are impressive as symbols of man's success in commerce. They are significant also as index of his capacity for the abstract. Art, the language of the abstract, is the synthesis of a co-operative attainment, physical, mental, and spiritual.

The Doges of Venice whose reign filled the interim between what we call ancient and modern history, practiced most dramatically the duo-role of great merchants and great connoisseurs of art. Each great epoch in history, before or since, also discloses the co-operative functioning of the two foci, commercial prosperity of the state, and a flowering of the creative genius in art. The recurrent waves of culture and decadence in these various epochs affords a perspective view of dominant potencies the principles of which are constant. From these potencies, therefore, we disengage and examine the principles which especially affect modern economic conditions. We re-create our economic order in harmony therewith.

These periods of creative art were apparently the result of a highly sensitized phase of mass - consciousness, i.e., the people thought in such a way that they became through their co-operative powers, a sort of spiritual dough, in which the yeast of the creative faculty working in the genius of the people as a whole, was able to express itself in works of superlative beauty. The Gothic cathedrals, and other creative handicrafts such as printing, tapestry, wood-carving, etc., were thus the perquisites of a very wonderful communal life. The financial structure of this age was nil. It consisted of a surplus at the top, controlled by the church and the various obligarchies and the matrix of a kind and tender over-worked, under-paid, grovelling, human family at the bottom which needed to be fed, clothed, and kept at work. In this structure, the guilds of the master workmen held a unique middle

ground. The solidarity of this group was undoubtedly the back bone and reservoir of the craft learning of the Dark Ages, and for sometime thereafter. However, the monks were the cultural frosting of the medieval cake, being painters, sculptors, silver-smiths, architects, etc.

Alone of all the peoples who were great builders, we find that the Goths lived in a period of restricted commerce. Nevertheless, the potencies of mass-consciousness maleable in the hands of the church flowered in a magnificent art, the most conspicuous examples of which were the cathedrals. It seemed, too, that in the absence of a commercial atmosphere the mass-mind unfurled the sails of a "great human kindness" wherewith man was wafted as by means of some primeval spirit to harbors hitherto unknown.

These wonderful cathedrals, so compact and harmonious in every static and aesthetic attribute, could have been created in no other way save as relique of a veritable human avalanche of co-operation. Religion itself must have meant, co-operation!

Then the fetish of the "hand made" appeared in the land. Naturally there was nothing else—great and small constructive work, textiles, stained glass, wood carving, etc., all came from the hand. This mass-mind enabling as it did the Gothic peoples to function as a unit in its handicraft, constitutes the first, last, and only satisfying explanation of the art of this age of unique spiriual uplift.

The ancient Chinese craft has something of the same significance. Incidentally, these historic vistas envisageing mass-consciousness should have profound influence upon modern education. I would like to see the "Dewey Methods" projected into the enlarged consciousness of the Gothic ideal.

In the tangled skein of modern life, therefore, we look for the silver thread of co-operation as an indication of man's kinship with certain epochs of the glorious past. Are we now, perhaps, near a great Gothic age in which we may hope to exercise the benefits of mass consciousness, of co-operation, of kindly, gracious, tender care for each other?

Martial Law of Finance

During periods of financial illness, when mortgages are being foreclosed, when stocks and bonds are depreciating in value, when speculative and constructional enterprises cease, and the grind of readjustment begins, we are urged to create a "martial law" of finance. In this "martial law" of finance, we are perhaps beginning to function as co-operative beings according to some universal law of compensation. By means of such straws, we begin to examine the currents of life as they appear on the surface today. If happily we may find some correspondence with similar currents as other moments of history, this "martial law" of finance may be found to be evidence of a present day mass-consciousness. The manner is which we digest this idea will be an epitome of our character. And the type of mass-consciousness which we now elect to cultivate will determine our fate.

Various aspects of the "martial law" to which we have referred have already been invoked. Note the restricted credits which precipitate a fresh crop of foreclosures and mortgages. Note the fashionable caracoling of unregulated and vagrant episodes in stock gambling. These debacles do not contribute to stability but rather coerce into immorality by their centripital power the minor operations which come within their sphere of influence. Note also the suggested moratorium in mortgages. Such moratoriums work a savage injustice to the owners of the mortgages, hence the reasonable suggestion that the retro-active phases of this plan are incompatible with true co-operative methods.

If there is a time of financial illness during which mortgages and other time obligations should be extended, why not a requirement by law to create the conditions of such extensions at the time these obligations are undertaken? Should this "martial law" of finance be invoked, before the disease becomes rampant? Would such law prevent or at least curtail the wholesales deflation of values?

Is it entirely impractical to legislate that no mortgages may be foreclosed during a period of deflation or if foreclosed, a tax

penalty be provided? Why not let the law define the conditions of foreclosure in an exact statement covering a supplemental ill; as an example, no mortgages may be foreclosed which can be proven to have paid more than a certain named rate of interest. This in itself would discourage the creation of certain types of mortgages. Or it might well be that no mortgages could be foreclosed during a period of deflation when loans for this class of security are refused refinancing in a normal manner at the banks of issue. It is a principle of accommodation suggested — the exact prescription must come out of experience.

Whether it is little homes or big fortunes which are threatened through a national sickness, they should be saved, if possible; saved through the principles of taxation, if no other way seems available. For we may consider it axiomatic that any foreclosure or loss to the economic stability of the individual reflects on the economic stability of the state. The state, therefore, has the right to forestall and restrict foreclosures by exacting penalties in the form of taxes. The taxes as mentioned above should affect both the loaner and the borrower. Such an aim tends to conserve rather than dissipate. Such an aim tends to foster as well a desirable attitude toward investments.

You cannot legislate prosperity, and the deflation or the creation of values ultimately depends on the natural law of supply and demand. *But, you can limit the "looting" which occurs in times of panic.*

What will be the effect of the suggestion of a "martial law" of finance on the mass-consciousness? Will there be a scattering or a consolidation? — the scamperings of fear or the calm of quiet faith in the ultimate good.

Speculation

Just previous to the times of financial stress, easy moneys appear for the precarious investments. The gambling interest seems to pervade all ranks of society. When this gambling spirit is rampant, should we investigate the malady in a spirit of scientific research? Should we require safe guards through the process of law in order that society may not be destroyed ere we fail even to know the reason why?

It has been proposed that we have a moratorium in mortgages, why not a moratorium in speculation, i.e., over-production? What if the foreclosed mortgage were taxable to the extent that the foreclosure were an equal menace to the mortgagor and the mortagee? What if no moneys could be loaned for any speculative purposes whatever? What relation do these questions bear to the state of the mass-mind of today? Is there sufficient solidarity in our thought processes today to encourage the belief that we have attained to anything approaching a serviceable mass-consciousness? Are we Gothic in our attitude or pre-Gothic? How does the man in the street react to the suggestion that we undertake the regulation of private incomes, or private enterprises, or private investments for the sake of the common good?

The financial habits of the world have been such as to encourage speculative operations with the result that the unsuspecting public has been deprived of its savings ofttimes. In extenuation of this situation, it may be said that a gullible and ignorant public are quite ready to be fleeced in one direction, if not another, so we are not concerned with the ethics of the case. *We are interested only in the effect upon the state as a whole.*

The shearing of the sheep is a primary school to which all the world goes, delighted! It is the only way, incidentally, whereby one may obtain an education in modern finance. The real problem is how to make good use of the experience.

The law of self preservation exercised by the owning class asserts itself often in the manipulation of securities. This leads to anarchy of a kind. The unrestrained rioting, i.e., the urge to speculate is quite as disastrous in its effect as strikes, boycotts, and what not of the unemployed. There is an anarchy of dollars viewed from either end of the scale of wealth. To say that "the rich" or "the poor" are culpable, is stupid. The small speculator is perhaps our greatest pest.

But are we of the world today with our radio and telegraph, mails and "world politics", united into one welded mass, or are we actually like a bundle of loosely woven sticks, as heterogenous as were the tribes of the Goths and Visa-Goths during the Dark Ages? *It seems to me that we are in the dark ages as regards a serviceable mass-consciousness.*

It is a fact well known to statisticians that if each and every individual moves in the direction of his own interest, the result will be the same as though one man owned and operated the entire financial universe If this be true, there can be no condemnation to any man in moving to affect the betterment of his estate in his own way. Thus we justify every phase of this complex maelstrom of conflicting interests in the financial and economic world today or any other day.

The Equitable Path

However, it is axiomatic that in time of financial panic those best able should be required to take the stress. This is entirely ethical and sportsman like, since the "surplus" has the "dough"—let "surplus" pay the piper. In time of war, the youth of the land "pay the price", because they have the where-with-all: strength, youth, and enthusiasm. In time of peace, out of our stored reserves wherever they may be, should be defrayed the price of calamity. Large incomes should be taxed first. Large corporations should be taxed inversely in proportion to their value and place of responsibility in the fundamental structure. A tax on commodities is undoubtedly a part of this phase of the problem.

Then again, by what principle of equity shall we liquidate the public debt in times of financial stress? Why should not larger incomes bear the brunt? Why tax the small home owner out of his income in order to provide costly public service? Where are these reserves — the "surplus" of human endeavor? Do the large incomes seem to tell us better than anything else just where the surplus earnings of our communal life are now to be found? Obviously, investments in the great industries upon which we depend for the co-operation of capital and labor should not be impaired. The financial strength of our railroad systems, telephone and telegraph, light and power, etc., must be conserved as far as possible.

It must not be forgotten, however, that both the lean and fat years are of the fruit of a control in which these same enterprises have shared the responsibilities with political leaders and others. Consequently, these enterprises should share the burdens in their just proportion.

Town Meeting

Then the inevitable evaluation of our banking system!—Will this evaluation be in tune with the principle of mass-consciousness? Should the depositors participate in the management and the profits of the banks! Do the banks belong to the people or do the people belong to the banks?

If all the loans made by the banks were posted together with all conditions of the loan stated, would our banks remain liquid? Why should depositors be kept in ignorance of facts which affect their welfare?

How shall we transfer the seat of political power from the banks to our public officials where it belongs?

Should bank directors be subject to referendum of the depositors? If not, why? By degrees, we approach the time when our citizens are able to comprehend the height and depth of this financial scheme of things.

The banks have failed to prove the validity of their leadership. Branch banking has made a "god" of "big business" and a pigmy of the home owner, which is most unpleasant! If we need the big bank in order to hold our place in the big world of finance, why not find a way to take the loaner out of the saddle? The only thing which can insure again the leadership, of our banks will be the backing of public opinion. This backing should be the result of a confidence and understanding of banking methods which does not now exist. Of course a bank can not be managed by the depositors any more than a Pullman train can be run by the passengers. The real issue is the comfort and convenience and

above all the confidence of the passengers —and the depositors! Restore confidence through character performance! However, the man in the street now knows that the commodities of life — pork, beans, bread, meat, grain, etc.—are the sport of the kings of finance of which the banking world is a component part. "Evil companions corrupt good manners." How long do we expect to "play ball" with empty dinner pails? A gigantic stock jobbing and gambling structure of finance permeates our civilization like water in a huge sponge. And the man in the street will not be able to function with modern finance properly until he sees and understands the system. The dilly dally with home building, and the creation of gigantic mortgage companies is "honey bungle", for the simple reason that no one believes in them. Did you ever see two old horse traders at their favorite sport? I presume the up to date salesman of second hand automobiles is like our old friend, the horse trader, in either case the amusing part is the best part. These new finance companies promulgated to break the financial jamb, backed by the government or not can only result in the easing of the burden along some now over-loaded channel. What is to prevent—how can it possibly happen otherwise than that insiders, accidental insiders, will benefit by this temporary expedient? What we want is action to curb well known illegitimate practices of high finance. We want a tax on gambling, we want a tax on over-production!

Benevolent Oligarchies

Does the laborer in the street who has never saved a dollar contribute anything toward the general credit situation? The answer is where would "big business" be if the man in the street were eliminated from commercial life? The man in the street well knows that the savings of the prosperous are his "back log" and insurance policy. Without stored savings, the state totters, credit ceases, and production dies. Therefore, we shall continue to allow stored riches to accumulate; but where and under what conditions, in the coffers of private individuals, or in the coffers of the state, or in the coffers of a great corporation? It matters not where so long as the actual freedom of the individual is preserved.

We now live under an oligarchy, a very few, you can number them on the fingers of two hands, hold the reins of government and finance of the world. The age old ever recurring problem is again up to the common man! i.e., the problem of England when the Magna Charter was born, the necessity to shift a saddle which has a burr embedded in the saddle blanket. But the problem in this case is not the problem of evolution, it is one of education perhaps for generations, i.e., the problem of evolution.

Happily for mankind the "oligarchy", our temporary master, is more likely to contemplate with gratitude the idea of kindly co-operation than are the so-called public, for our public is, after all, not an informed body. Now "our oligarchy" on the other hand, is intelligent and full of wisdom of a kind which will be helpful— "a good horse stands while you are changing the saddle."

The problems of finance are intricate only as regards the ramifications of practice. But the theories are not so. The difficulty is to persuade great money powers and large intelligent groups of humanity to adopt simple and correct principles. Principles which lead away from private power and private monopoly are our quest. Principles which conserve the present status are popular. The average public character will not discuss the open questions, is "credit" a vehicle or a commodity or both? — to whom does the credit situation belong?—is the body politic taken as a unit a real right to the benefits, i.e., the profits, of this credit situation?—Is credit like the "king's highway", useful and usable to anyone who can qualify regardless of personalities, or is it for the use of those who can on occasion block the traffic jamb, and then create new expensive ambulances in the form of credit companies to remove the jamb?

The man in the street does not know who creates the jamb, maybe God did it; but he can know, and he will know! The simple process of examination will suffice. What would "surplus" think if every man

on the street stopped crewing gum and using talcum powder just to make a little flurry in the market? and yet that sort of thing, with the reverse "English", is done every day by so-called financiers.

When a surplus belonging to one group is loaned to members of another group, does it follow that when sickness enters the whole body economic that the loaner under the law should be obliged to take over the entire holdings of the borrower? Is the body politic as a whole benefited by forced liquidation of debts, under all conditions? *If you feed a turkey corn, you have the right to pluck his feathers and eat him!*

In the servicing of a business law, there may be equity and moral force as regards an individual operation. Whereas, in the varying ramifications and convolutions of "loaning and paying back", the aggregate effect upon the entire body may be demoralizing and immoral. The whole system by which we live by credit rather than by cash is open to argument. It is time that we engaged in the enlightening occupation of evaluating our accepted system from the mass-mind viewpoint. Is it not possible to imagine a system whereby the borrower's equity, when it must be dissipated, through mismanagement or any other cause, may accrue to the benefit of the whole body economic rather than to a single individual. The individual owner getting back his original out-lay plus interest only. Surely such a situation would tend to lessen the greed of the loaner. Further, if the loaner of money could not get his money back unless he paid a tax to the state, in the case of foreclosure, he would be less inclined to loan in the first place. The true economic necessity of the loaner and the borrower is thus conserved and the gambling element would be reduced to a minimum.

In this circus, the three ring circus of "bulls and bears", "sheep and shearers", "panic and prosperity", there is now enough data available to disclose the fact that the warming up process, the getting of the public ready for its shearing, is a process which might be regulated in the interest of the whole. Who is going to take the lead in showing the way? Only a master surgeon of high finance is equipped to approach the subject. There is a big trout, a speckled beauty, hiding under the rocks in the stream of finance. Mussolini has said, "every country is waiting and ready for a brave man." This master surgeon, or speckled trout, whatever he may be, is masterful, knowing, and weary. He has run to cover; he must be pulled out of hiding to serve us. We need him—now.

(Concluded in October issue)

TO WHAT EXTENT HAS LANDSCAPE ARCHITECTURE GONE MODERN?

by
LEON HENRY ZACH
in Landscape Architecture

THE modernistic trend in landscape architecture has affected in an important way only one phase of the profession,—the small garden closely related to the house. Examples of the work come mainly from Germany, France, and Sweden; a few from America. Before this modernistic work showed itself, we had been "modern" in the usual sense of up-to-date, up with the times. We are not usually far behind the architects, sculptors, and musicians in making use of the new materials of our trade,—the new species in plants, the new materials in paving, and so on. We are not much slower to change with the times. We have become less conventional; we emphasize our accents more. Our design has greater "kick", is more vitalized. But these are modern developments on quiet lines that have come along in the natural course of events and are a distinct contrast to what is back of the term "modernistic work". This term is meant to include the rather unusual designs in which the queerness of relations and shapes is uncommon enough to merit the description of being bizarre.

For those of us who have not recently had the good fortune to travel abroad and who therefore have to base criticism of modernistic gardens on hearsay and on photographs and lantern slides, it is at first difficult to see in modernistic work any conscious effort at serious-minded solutions of the problems presented the designers. Such strong destructive criticism should probably not be made on the basis of hearsay and photographic evidence, but it is quite true that at first glance it is easier to see only the frivolous, sometimes ludicrous, results produced by the use of modernistic forms and effects.

Closer study, however, of the same examples indicates that the modernist has used accepted principles of design and with a great deal more consideration than at first appears. That the results seem bizarre to the neophyte is perhaps in the modernist's opinion as much the neophyte's fault as the designer's, because the neophyte does not see what is back of the designer's intentions.

The modernist relates his garden intimately with his house, thus satisfying one of our fundamental principles: that of making the garden the outdoor living room of the house. He even goes so far in some cases as to carry grass and occasional plants in under second-story terraces, and in other cases to carry vegetation onto upper terraces well above the garden level. Satisfying another first principle, he care-

fully bounds the garden with wall, hedge, or clipped trees, providing the seclusion and privacy that we expect. He provides interest with certain harmonious relations produced by repetition (sometimes too much), or by sequence (sometimes harshly, as in the famous example of the saw-tooth edged path), or by balance (occult preferred to symmetrical). But these and other first principles which the modernist does not disdain are really the unavoidable ones that must be followed if the result is to be a garden at all.

On the face of it, it would seem that, back of at least some of the modernist's odd results, is a desire to do something different in a rather dramatic way. This may be partly due to psychological effects of uneasiness and unrest following the War, but only partly, because some of the modernistic work long preceded the War.

Some of the bizarre effects may be due to the fact that, more often than not, the designers are architects. Of the men frequently connected wih modernistic work, Tony Garnier, La Prade, Mallet-Stevens, and Le Corbusier are all architectural. Surely this is in part the reason for one of the outstanding characteristics of modernistic work, — the over-plentiful use of architectural and geometric forms: excessive indulgence on paper of the T-square, triangle, and compass. It is surprising, after seeing a plan of a given design, how much the third dimension has been considered on the ground. One of the modernist's means of overcoming two-dimensional monotony—his resorting to so-called "design in volume"—is again architectural in effect. He gets his height in planting beds for example, not by adroit choice of plant materials, but by tilting the beds at odd angles or by making them pyramidal or otherwise geometrically mounded.

The modernist's shunning of visual symmetrical balance about an axis is not a new idea, but where others conservatively avoid symmetry and formality by resorting to total informality, he often keeps his axis and resorts to occult balance of geometric forms or masses of color with real subtlety. That his design is reduced to severe simplicity by the nakedness of his forms may be commendable, but on the whole his results, in the opinion of some of us at least, are cold despite their warm color, harsh-edged with little softening by vegetation, and in parts irritating in their self-conscious cleverness.

Sometimes the modernist confines his use of flowers in one composition to three or four varieties and then uses a given plant *en masse* like paint, applying it in broad stripes or checker-boarded or otherwise formally. This is due apparently either to his really wanting to get certain effects in this manner or to his lack of appreciation of beauty of flowers as flowers, and so to ignorance or at least uncertainty as to what really can be done with flowers (the architectural training again perhaps).

The use of mirrors to produce an effect of increased size of areas, of exaggerated-sized details (like the artificial flowers ten feet across in pools), of concrete trees as in the Paris exhibition of 1925, is less easy to find reason for, although in the case of the latter, Mr. Fletcher Steele tells us that he understands that these trees replaced real trees that either did not come true to the form required by the design, or else passed out altogether.

This kind of modernism has so far affected mainly only small gardens in close relation to the house; that it is unlikely to affect other phases of landscape architecture in our country is evident when we stop to consider its limitations.

Nature's ground forms remain the same to-day as always; man's problems of arranging the land that it may be more fit for human use and enjoyment remain unchanged in essence though not unchanged in many minor details of the modern needs which must be recognized. Radii of road curves have now to be greater to accommodate the new means of transportation; roads have to be wider to take care of greater density of traffic; the crowned curve must be replaced by the super-elevated curve to meet the increased speed of automobiles. These and innumerable other adaptations of old principles to new needs in no sense affect the theories upon which landscape design is based. We love the land, we appreciate the beauty of its forms,

we recognize its topography in our designs upon it; in fact the landscape is much too big for us to "buck". That modernistic conventional design-forms cannot be arbitrarily and harshly planted upon it goes without saying. Given the graceful slopes of a lovely swale in a rolling country and the need of a path along the base of one side of the swale; such a path, if it is to be functional but at the same time pleasantly harmonious with its surroundings, can probably take no other alignment than one of curves of easy radii to fit the topography. No one would think of forcing an angular succession of straight lines on such a topography. Natural ground forms then cry out for naturalism in the design of man-made additions or changes to them, and their very characteristics are a limitation which precludes subjecting them to arbitrary architectural lines. This limitation applies at once when the landscape problems no longer relate to structures built on formal lines, but to surrounding nature: it often applies then in park work, cemeteries, subdivisions, etc.

A second limitation exists in the natural forms of flowers and other vegetation. Only a very small percentage of the increasingly great number of plants at our disposal is adaptable to a use that is consistent with the geometric shapes of modernistic work, or for that matter with any stiff formalities, old or new. Shorn and shaped to carpet-bed uses, nothing remains of the real beauty of the plants. It almost seems that the modernist wants nothing but the color value, the texture type, or the mass effect of flowers for use as a different kind of flat wash in his flat design or as a different kind of volume in his three-dimensional picture. What then of the great majority of plant materials at our disposal which cannot be subjected to this treatment? Obviously we shall continue indefinitely to create designs which will set off the beauty of individual plants, trees as well as flowers, for the sake of this beauty. A great deal of our vegetative material is too large in scale to be subjugated to the petty quirks of modernism; it is only when the designs become big-scale enough that our larger horticultural forms can properly be shaped to serve them (as clipped lindens in great squares, for example).

There are others of nature's materials left in natural states which we shall continue to use long after the novelties of modernistic work are no longer novel, some of which are not readily usable in the new work. Chief among them is rock in boulders or ledges or other natural forms. A shining example of the incongruity of rocks in a modernistic job is to be seen in one of the Parisian gardens where piles of rock with some plants growing out of them — miniature "rock gardens", as this term is misunderstood—are loosely laid up against stucco walls and fountain basins in what seems a sloppy, meaningless heap. Closer study indicates that there was undoubtedly considerable thought put into the job, but the callous disregard for the incongruity between the materials used is obvious. It may be some time in America before our garden lovers cease to throw up a pile of rocks in the front lawn and call it a rock garden, but there will always be some of us who will continue using rock in other more naturalistic arrangements, in sincere attempts to make it look as if it had always been there. It is a most valuable material in its natural forms, but in these forms its characteristics seem to preclude its successful use in modernistic work.

One is impressed in some examples of modernistic work by what may be an intentional symbolic use of objects, as in the case of a stiff geometrical mound possibly meant to produce in the observer's mind the effect of a real rise of ground for which there was no actual room in the design; and in another case, in a very small garden, of a rectangular fountain set off by itself, at first apparently unrelated to the rest of the design but actually symbolizing water in continuous flow by the mere sound of a small artificial trickle,—the noise in scale with the size of the total design and probably making itself heard throughout the garden, and therefore not as unrelated to the design as at first appears.

In the possible development of symbolic use of objects and landscape materials, the modernist may have a real future, though he would only be stealing "old stuff": the

Japanese gardener of ages ago had his four or five mounds of earth of varying sizes, symbolizing mountains near and far, his eight or ten important stones each with its definite meaning, and his six or eight noteworthy trees of special significance planted among others of less importance. It is not inconceivable that a tree with some outstanding characteristic should take on a special meaning in a given kind of modernistic design. Perhaps there would even be possibilities in trying to make different forms and shapes of masses take on symbolic meaning, — as in everyday life the circle is the symbol of strength, and the triangle (eternal, not geometric in this case) of marital infidelity. It may be putting our hopes too high to expect our garden-loving public to appreciate such subtleties. This public does grasp the weepiness in *Salix babylonica* and in *S. elegantissima* and sees love in roses, purity in lilies. Any more subtle or general use of symbolism in design would put an additional burden on our publicity experts if they were to try to develop the public's appreciation for such symbolism; for even now, with simplified design, they have a man-sized job in getting the profession recognized and real landscape beauty appreciated.

STERILIZING THE MODERN POOL

by
CHET NINEKIRK

HOW often have you been a spectator at some important swimming event? How many times a year do you like to splash in your favorite swimming pool, and isn't it so that perhaps you might swim more often if you could relieve your apprehensiveness about the sanitary conditions of a public swimming pool? No doubt you have always more or less questioned the ways and means available for the proper control of sanitation in a modern pool. I have found so many people in this frame of mind—people who have denied themselves the pleasures of this wonderful recreation on false suppositions. Whether you swim to improve your health or swim for the love of the sport, it is of paramount importance that you swim in a properly supervised modern pool. There is nothing like swimming to enable one to keep a sylph-like figure. Swimming improves ones posture which provides for good health.

You may be surprised to learn that swimming pool water (where proper water sterilization and filter equipment is maintained) may be kept within drinking water limits: 100 bacteria per c. c.

As for drinking water, the city of London obtains its aqua pura from the Thames River which carries sewage from numerous populations along its water course. And yet this self-same water, after filtration, chlorination and other minor treatments as required, including aeration, makes a palatable, healthful drink.

The modern swimming pool is nothing more than a miniature city water supply. Pool water must be filtered and this treatment alone removes eighty-five percent of the bacteria present. From two to five-tenths of one part per million of residual chlorine annihilates the other fifteen percent, with still kick enough left to floor any bacteria that may smuggle themselves into the water on the bodies of swimmers as they enter the pool. All colonies of bacteria are not dangerous. Bacillus Coli and Streptococci are the groups in which we are most interested in bacteriological water tests.

Just recently I was talking to a swimming instructor at one of the local pools when several young ladies approached and asked him on what day of the week the water in the pool would be changed. He told them that the water had not been changed for three years. Of course, he had to explain that he was not talking about the old type fill-and-draw pool, but a modern up-to-date recirculating pool.

For proper filtration, pumping equipment should be designed to handle the entire volume of a swimming pool through the filters in eight hours. Water enters and discharges continually while the pool is in

use. If it were not for natural and mechanical losses of water, such as is lost through evaporation, wet swimming suits, splash into the scum gutter, surface cleaning, and vacuum pool cleaner losses, it would be possible to use the same water for years.

safety. Two tests each day are usually made. The city health department will take a sample of water each week for a bacteria count. In localities where necessary laboratory equipment is not available the state university usually provides this service.

Photo by Graham

LOWER PLUNGE, HOTEL DEL MONTE, CALIFORNIA
Lewis P. Hobart, Architect

The necessary amount of water must be added, of course, to make up for these losses.

In order to check sterilization and alkalinity of swimming pool water, the modern plant is now equipped with simple test comparators, with which the operator may quickly determine whether or not the water measures to the predetermined standard of

Eye inflammation, often caused by chlorinated pool water, is no longer troublesome where ammonia gas is used in conjunction with the chlorine gas treatment. Ammonia gas aleviates this harshness to such an extent that the chlorine is hardly noticeable, if at all, even where the residual quantity is high.

Liquid bromine may soon find a new use

in the field of water sterilization. Recent tests, which were made at the University of California, to determine the killing power of bromine, produced important results. Incidentally, the city of Burlingame uses bromine as a detergent in their city water supply. After all, modern equipment and proper operation insures a perfect swimming pool.

The ol' swimmin' hole has had its day. Swimming "RAW" may have had some advantages, but whatever they were, they certainly could not compare with a modern 35'x100' job, with water at seventy-two degrees for comfort, and proper sterilization to insure the swimmer against disease from contamination.

There are many cases where public money has been spent wisely for community swimming pools.

The submarine light is a new ovation in modern pool construction. From the rays of a submerged light, the movements of a gleaming swimmer become resplendent with iridescent light. The foaming, splashing, scintillating wake beautifully marks a master of the six beat crawl, leaving bubbles of color which enchant the eye—exquisite colors, comparable to the vivid hues of a Parrish picture!

Photo by Graham

SWIMMING POOL, PEBBLE BEACH, MONTEREY, CALIFORNIA
Lewis P. Hobart, Architect

CHURCH OF OUR LADY OF PERPETUAL HELP,
DOWNEY, CALIFORNIA

HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

INTENSIVE CONSERVATION IS BUILDING INDUSTRYS' NEWEST PROBLEM

by
MORGAN HITE in Pencil Prints

IN the beginning let me quote from a report of a national survey which I recently made. This will provide the background for the new idea which has imbedded in it the possibility of reviving building construction activities on a scale *that will mean something* to building trades mechanics, manufacturers, the railroads, dealers, architects, and the entire network that is embraced by it. My report, if you don't mind:

"There is disclosed the real situation existing in the cities. In all of them there is ample rentable space available — houses, apartments, offices, commercial. There is no shortage of any kind of space—except *good* space. Ten years ago the situation was diametrically the reverse of this: there was no space at all available, good or bad. Even the most dilapidated dumps were in demand — then. It is all different now. Only well-kept places get the public's preference. Dilapidated and down - at - heels buildings are going from bad to worse.

"New building is proceeding slowly, but not enough to equal the absorption of vacancies, so that it may be stated that existing space is being gradually eaten into: but too snail-like to be of any benefit to the situation. In consequence old buildings are drifting backward swiftly in public esteem, and consequently in value. Manhattan is in the same boat with the rest of the nation.

"There is, however, a real demand for the best. Location still attracts. Well located old properties are being considered from a new angle. Thought is turning toward the salvaging of old buildings erected many years ago. These are becoming obsolescent. This is slowly unfolding a modernizing movement which will have important consequences later."

* * *

"The speculative builder cannot at present show the lending agencies—capital—that there is a public need or market for his product, and he is therefore deprived of funds. This is notably so in some of the very largest cities. Judging from the amount of unrented space now on hand he will be out of the market for some time, in the field of *new* construction. If the speculative builder is heard from soon it will no doubt be in the rising field of *modernizing* work in which he is apt to see opportunities at an early date. Capital for this will probably be available to him at once.

"There are thousands of sites—now built upon—which can *never* be duplicated for location value. This offers a new and extensive field for building operations that only require proper local or community organization combined with private business initiative (which should be paramount if the movement is to be helpful and productive and thoroughly economic)."

* * *

The original modernizing movement which was inaugurated inopportunely a few years ago at a time when the country was in the midst of an enthusiastic building program has evolved itself, as things

are prone to do, into something else—something much more economic and advanced. This nation has always in the past been *new-building* minded—but a change in this traditional attitude seems to be impending, for the country as a whole.

Because modernization holds a hope for many branches of the building industry which are suffering from the lapse of new building construction, the subject has been taken in hand by some keen minds within those industries. The United States Chamber of Commerce, through F. Stuart Fitzpatrick, Director of the Civic Development Department, has begun an intensive study of the question. A forthcoming national conference is now being programmed by the Federal Government, also.

Rebuilt homes and other buildings, salvaged properties, the restoration of blighted streets and areas in cities, the turning away from a non-existent new-building market to a new intensity in connection with the improvement in every possible way of existing structures, is offered as the single important outlet for materials and building workers—to take place of a steadily slackening volume of new construction activities.

What has held back modernizing, then? Two things, mainly: Americans are still new-building minded, as I have said. And there is distinctly *absent* any proper technical organization for *producing* the average modernizing job.

The building materials exist in plentitude, the men are at hand—there is greater unemployment in the building trades than in any other field — and the financing of operations has shaped up properly. But no organizations compatible with the possibilities have yet been brought into being for the conduct of a modernizing job from the moment it emanates in the vague form of a desire on the part of an owner of a home, say, until it is carried through as a completed piece of work. The nation has not been organized on a business basis, heretofore, to handle construction work *in spoonfuls*, as it were. And remodeling and alterations and modernization individually come under that heading, although in the aggregate the volume of modernizing work to be done—on fifteen million buildings—would require twenty years full-time operating of the productive facilities of the entire construction group.

At present, under the system which has hitherto prevailed for carrying on new construction work, there are several separate elements: The *architect*, who is fully qualified to put the initial ideas into shape, but who will not undertake the contract work. That is not his function—in America; although he does so in Latin America and on the Continent. The *contractor*, who can assume the contract obligation, but who has no facilities for the essential preliminary designing and planning and development of the ideas of the owner. Neither of these therefore is prepared to offer a complete service. The *manufacturers* of the diversified products which go into a building are barren of any facilities for cooperation beyond furnishing their products, nor is it their function to engage in building operations. The *dealer* who distributes the extensive line of materials is not equipped with technical knowledge or experience for carrying on a job of "assembling" a finished modernization job—moreover, his job is to distribute.

Even a small modernizing venture involves frequently fifteen to twenty-five separate building trades and specialists—seldom fewer than three or four—and hundreds of sorts of materials. On any ordinary building job the variety is very great, and few if any dealers carry anything like a line so complete as to supply any regular operation.

These four factors need to be coordinated far beyond anything now prevailing — and definitely organized — to meet a great new phase now confronting the building industry. They must in some way combine to serve the public as a single operating unit in order to fully take advantage of the huge waiting modernization market. Say that it is their chronic new-building mindedness which is holding back this achievement. Very well — economic pressure, the continuance of the marked sag in construction contracts, will bring about new alignments in due course. But much should be done to accelerate this process, in view

of the losses caused by the current depression and the folly of complaining of conditions, whilst in the background an incomprehensibly great and new market is waiting for action.

Financing agencies are ready. It is not a problem of finance this time, nor of market. Whatever has not been done has resulted from a total lack of organization within the building industry for handling, or producing, this kind of work. Where is the vaunted organizing ability of business America today, while this enormous opportunity waits?

As the industry is now organized, a modernizing job which involves an expenditure of less than $5,000 finds no takers who are equipped perfectly to meet the owner's wants. There is no competent one-contract functioning body—with the rare exception of one or two local specialists who have been operating quietly in certain centers—to whom the layman may turn. Incompetent ones? Yes, but even these are few. This field requires more than child's play or cream-skimming. It calls for a high type of professional, business, and organizing ability: and an abandonment of the proneness to look for, wish for, hope for, another great era in the near future of *new* building.

Why stress the small modernizing job, of the sort mentioned above? Because inevitably that sort of an expenditure, that sort of "spoonful" job will inevitably comprise the bulk, by far, of the work to be done in this country. It is not only the basis but it is the real force underlying this whole conception of a new market which must be opened, to replace the era of new buildings on any such scale as we have heretofore enjoyed, and which, except possibly on Manhattan, has gone from America forever. There are important economic and sociological reasons which have brought about a form of increasing stabilization in this country, which are too ramifying to discuss here, which make certain a downward curve in everything the building construction group has heretofore depended implicity on, and which leaves nothing else but a compensating upward curve in the replenishment and modernizing field. Properly taken advantage of, this new source of activity will rival the one whose passing we now slowly but steadily witness.

The small job has hitherto been held in a sort of contempt. We are entering a new period when catering and patience will become new and interesting factors in American business. It will tend of course to develop executives of a type which can contend with the new conceptions. That is why the modernizing field requires a different type of organization, and must have it. It will come out of the present welter of itself, if given time. I would not be surprised to see a great chain organization assume the responsibilities— and the profits—accruing to organized effort in this new domain. Does the industry—which is to say all of the factors whom I have named, such as manufacturers, architects, dealers, and contractors—believe that their best interests for the future will be conserved by properly organized cooperation among themselves all over the country, or by neglecting the subject and leaving its development to future chain organizations? Finance is the only major item which is safeguarded in either event—but who knows when some day it may be that powerful "chains" will dictate terms to Finance?

Why is it requisite that an organization be set up? Why is it that individuals are unable to execute, properly, a mere modernizing venture?

Well, the contractor, we will say, is willing at any moment to take on any modernizing job, small or large. But he is incapable of initiating the preliminary plans or helping the owner to formulate his or her (more often her) ideas. But, assuming the contractor goes this far—through this absolutely necessary preliminary detail—he is next confronted by the owner's desire to obtain competitive bids, inevitably. The plans are only vague and hazy, therefore the competitors seldom bid on the same understanding of what the work is to consist of in its infinite details, hence the bids submitted are hardly comparable one with the other. And the contractor, who made the initial estimate and probably spent a lot of time promoting the job, is just as likely as not to lose out in the bidding and lose

the job. He finds it unprofitable therefore to work up such propositions and prefers to bid on authentic plans and specifications made by a reputable architect.

But an architect is seldom or never called in on these small jobs. He is the first man to receive a call when a large piece of work is contemplated. On large alteration contracts he controls and manages the whole operation, making plans, specifications, taking bids, and letting the contract to a competent contractor, and then supervising the construction work until it is finally completed. The architect is seldom omitted on work which involves large expenditures. But it is a matter of fact that he is totally ignored when it comes to small or moderate priced work.

Then, we will say the dealer may have a happy idea that *he* can promote and develop some modernizing work. His salesmen work up prospects, several of whom decide to go ahead and have some work done. The dealer suggests that the owner engage an architect—to do the things the dealer himself is not (yet) technically qualified for. The architect does this and puts the plans out for bids. He duly lets the contract to some qualified contractor—and in the ensuing scramble on the part of every dealer in town for the bills of materials which the contractor shall purchase, the dealer who originally worked up the order finds that in the competition his price is too high, and the order goes to a rival or a price-cutting outfit.

That dealer then discovers that there are flaws in his method, and that despite his enterprise, initiative, and salesmanship in developing the prospect, he is left out in the cold. Therefore, as may be readily seen, none of these important contributing elements, architect, contractor, or dealer, is in position to work alone in this rising new field of modernization work. That the fourth element, the manufacturer, is in any better situation needs no denial. Only Finance stands to win, heads or tails, although the firm, steady tread of Power, which signifies the growth of the chain idea, may yet divide the honors with Finance!

An age of intensive conservation—a new conservation in a form which we have never, in America, witnessed—lies ahead of us. The ensuing decade will mark with readily identifiable signs the coming of a new phase in American business — a new approach to every market will be a necessary ingredient of success. The conservation of property and all tangible values will become an intensively cultivated field. Properties are now lying in a neglect that will be discountenanced a few years from now. Property which can be enumerated in millions of parcels in this country is susceptible to salvage in some degree or another. Valuable land is being occupied by buildings too good to be scrapped and yet unfit for modern competitive needs. Too long has the "high standard of living" in this country implied mere ownership of a motor car or being well-dressed and taking plenty of amusements, and too little has it implied a standard of home-design and fitments which were comparable in quality with the automobile or the free-spending aptitude. By and large, the housing standards of this nation are too low, and it is regrettable that this fact has never received the attention it has deserved.

An intense cultivation of this field will develop possibilities for renovation work, improvements and alterations which will not only raise the standards of American home life far beyond anything yet attained, but will tax the resources of the building construction industry to its limits, in production and man-power. Put every home in the nation in good repair—that single feasibility has a mighty potential when measured in terms of sales and employment. Carry the idea beyond that — into buildings of every classification. And then carry it beyond that, that every home shall have the common modern facilities, at least, as its minimum requirement. Go on, to further horizons, and add more comforts and beauty, and cleanliness insurance, so to speak, by building for permanence and substantially. Rectify not only homes but their surroundings and approaches—a whole world of opportunity for reconstruction resides in this aspect alone.

Modernization will spread by force of example. The *new-building mindedness* of

public, real estate men, and owners has made visualization of its true nature impossible. The salvaging of real estate values has not been hitherto fully indicated. People learn by the eye. Only as executed examples proving this economic foundation to the whole modernization movement become visible, does the added value and beauty become more apparent. When modernization has been extended to whole blocks and stretches of streets, and to entire neighborhoods, so the eye may see conclusively, the demonstration will be complete.

A neutral agency such as the Chamber of Commerce of the United States has been suggested as the medium through which to effect community organization throughout the nation, with local clearing houses to serve the public. Modernization in its final aspect is a community matter. Its national significance is that it offers a solution of one of the critical economic problems of the day—that which is associated with the building construction industry which has been struck a mortal blow.

There is no end to the intensifying influence which this country is in process of undergoing. Modernizing is one of its large and most obvious phases, but intensity of effort will ramify in many directions. Every tangible value in the country will be attended with a new and microscopic re-valuation and conservation. This will be the keynote of our new economics, which will be very European at root, very English in a sense, and very soundly based—henceforth.

There is something that *needs* to be done in fifteen million homes or more. There are literally innumerable ways of improving our dwellings, or of revising stores say, for better and intenser merchandising. Other buildings need more beauty—this is a fertile opportunity in itself — or more light. Nearly all of them should have more convenience, or points of weak or bad construction remedied effectively. Other buildings occupy valuable land on which no adequate return is possible in the present condition of the structures. The investment can be salvaged and oftimes increased in value by intelligent alterations. The location of a piece of property is the essence of its value. Good locations deserve thoughts of how they may be conserved or improved by a judicious expenditure for modernization.

The revamping of office building lobbies —and corridors—that are growing out of date, and the installation of modern elevators, and the improvement of heating systems and other equipment, in such investment properties, is a fruitful field. The re-designing of foyers in apartment houses which may be slipping back, and the introduction of bright new ideas of various sorts that bring a building up to date at a moderate expense, is an extensive opportunity. Comfort, convenience, good construction, and added beauty, are not matters of *cost*, but of good design and judicious expenditure.

Good taste and good judgment most often spell economy of cost.

Thousands—tens of thousands—of old buildings need new fronts. Whole blocks need to be made uniform and beautiful facades created where now exist ugliness and disorder. Is not this a subject for community leadership and action? It lies within the power of every town, small city, or large city, to revamp its business streets so that in miniature they will be Town's Pride, Fifth Avenues in their own right—through intelligent modernization.

Whole sections of cities may be reclaimed, and realty values brought up to unheard of high levels. The modernizing process need not stop at privately owned property—public buildings properly modernized will often provide an increased space and efficiency at a cost much less than that which at first thought could only be attained by a heavy bond issue and a totally new structure. Schools and institutions of all kinds are numbered by the tens of thousands — they cannot be deemed proof against time and obsolescence or proof against possibilities of being intelligently modernized and improved at a cost much below accustomed expenditures for new buildings which but add to public indebtedness.

A due consideration of the possibilities of modernization by communities and tax-

ing officials should result in enormous savings to taxpayers. Such taxation economies, besides, will be demanded in the years ahead of us. The new conservative forces will not pause after reinvigorating privately owned values. A new face will be put on the whole tax situation. Intense economy will be one of the orders of the day—the conservation of existing utilities rather than the building of new ones—that is to say on the extensive scale to which we have been accustomed in the past.

The modernization of industrial plants, and of equipment, to render higher service at lower costs to meet the more intensified competition which is predicted for the next decade or two, will result in a huge volume of replacement work. Frequently in the past plant expansion has represented sheer waste, has often been a fatal move, due to haste and thoughtlessness. Very often a study of the conditions would have shown that the desired enlargement of production facilities could have been obtained at less cost and with greater efficiency by plant modernization and development of a more intensive use of the equipment or an improved layout.

People are averse to heavy financial commitments at present, but are willing to make small commitments ahead. It is in just this fact that much of the possibilities, and the strength, of the modernizing idea resides. People *can* and are willing to finance small borrowings such as would be required for remodeling, rebuilding, or modernizing homes. Accumulated savings are providing a new and enormous cash reserve to base a new credit line on—a credit line that will not be stretched, this time, beyond capacity, to the breaking point. Sounder economics will from now on prevail.

With extensive modernization activities on every hand, as the movement develops, reclaiming not only individual homes and business structures, but whole street fronts, of business and residential *districts*, the problem will develop another and most promising aspect. It is this: that in the midst of an improvement of properties which will not only be general in every locality but nationwide, those that *do not* undergo some form of modernizing to keep them at the *new par* will tend to depreciate *further* in value.

Out of the welter of change that is going on by reason of the "depression", we may expect to see the results of this movement crystallize, moreover, in a more substantial type of construction for all kinds of structures, higher than the average in the past has been in America where permanency was a by-word. The European idea of build well will develop finer workers among us, better craftsmanship. It will also teach us greater conservation in the utilization of every kind of material. This will reduce labor and assembling costs, resulting finally in a generally lower level of building costs without any sacrifice of quality standards, or standards of comfort, completeness, or beauty.

In one view of it, the modernizing, movement will parallel in its growth the automobile industry's progressive stages. First, the idea, received skeptically. Then the gradually increasing number of actual examples of the finished product, which will be followed at once by the perfecting of the financing facilities. Where there is a demand for any product you will always find —no matter what the so-called condition of the money market is—capital available in whatever sums are required. Then—continuing our automotive parallel—the organization of the modernizing field, the productive facilities, will become highly developed, with a constant improvement in the product, in quality, design, and results obtained. A new technique for this sort of work will evolve.

And, as in the motor industry's history, when all of these have been thoroughly coordinated, *the modernization industry* as such will be born. It will become one of the great national entities. Its work will not stop—stimulated by promotion efforts, advertising, and highly organized resources —until the entire roof line of the nation has been remodeled, done over, improved, brought up to the *new*.

Two Interesting Churches in Southern California

DETAIL OF ENTRANCE, WESTWOOD COMMUNITY CHURCH, LOS ANGELES
Gordon B. Kaufmann, Architect

Wurster Construction Company, Builders

WESTWOOD COMMUNITY CHURCH
LOS ANGELES, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT

AUDITORIUM, WESTWOOD COMMUNITY CHURCH, LOS ANGELES

GORDON B. KAUFMANN, ARCHITECT

WESTWOOD COMMUNITY CHURCH,
WESTWOOD, LOS ANGELES COUNTY,
CALIFORNIA

Gordon B. Kaufmann, Architect

GRACE LUTHERAN CHURCH AND
SUNDAY SCHOOL,
SAN DIEGO, CALIFORNIA

Albert J. Schroeder and Frederick Kennedy,
Associated Architects

DETAIL OF ENTRANCE, GRACE LUTHERAN CHURCH, SAN DIEGO, CALIFORNIA

ALBERT J. SCHROEDER AND FREDERICK KENNEDY, ASSOCIATED ARCHITECTS

BUNGALOWS AND BATH HOUSE, WARNER HOT SPRINGS
Gordon B. Kaufmann, Architect

LA JOLLA TELEPHONE BUILDING, LA JOLLA
G. R. Morrison, Building Engineer

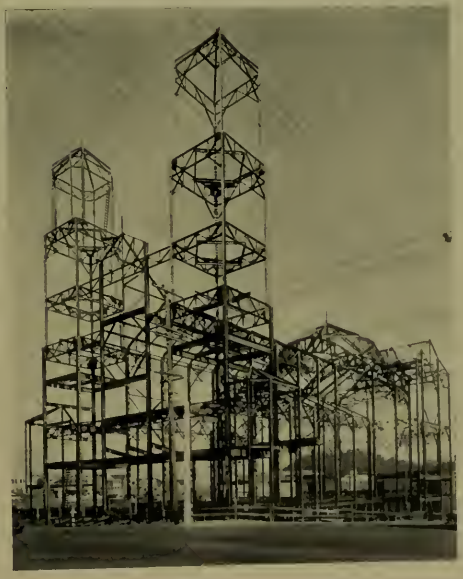
LIBRARY, SCRIPPS COLLEGE, CLAREMONT, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT

ST. ANNE'S CHURCH AN OUTSTANDING EXAMPLE OF EXPOSED CONCRETE

by
FRED'K W. JONES

ST. ANNE'S Church at Funston Avenue and Judah Street in San Francisco, not only reflects the genius of its planner, the late Will D. Shea, but it serves as an outstanding example of monolithic concrete construction. Not so many years ago he was a daring architect or engineer who would attempt to build an edifice involving the same structural and aesthetic problems as St. Anne's. But times have changed. New principles have been applied, new methods adopted, there has come about a better understanding of materials and the result is a great building, structurally strong, aesthetically beautiful.

St. Anne's, with its rigid walls and lofty roof vaults, will long remain for it has been done thoroughly and well. The desire which every good architect feels to have his building sound and true, has been accomplished here. The desire which efficient workmen in every walk or rank of life, high or low, have for a good job is here expressed and satisfied. And the purpose of all the planning and of all the building and of all the work, a church for prayer and for worship and for contact with the Great Realities and Everlasting Verities — that also has been achieved.



McClintic-Marshall Corp., Fabricators

STEEL FRAME, ST. ANNE'S CHURCH, SAN FRANCISCO
W. Adrian, Structural Engineer

In its infancy, reinforced concrete construction was confined largely to retaining walls, warehouses and bridges. Architects and engineers were slow to adopt concrete for ornate structures because they thought it necessary to use an exterior veneer of some other material, which made the cost prohibitive. To leave a concrete wall exposed after removing the forms was to invite the severest criticism from the public mind for where is there any

Photo by Moulin

ST. ANNE'S CHURCH, SAN FRANCISCO, CALIFORNIA
Will D. Shea, Architect

beauty in spotted walls and frequent patches of dirt and efflorescence?

Modern methods of mixing and pouring concrete, however, have worked miracles for this industry and while veneers of brick and terra cotta are still used advantageously, it is nevertheless possible today to design and build a concrete structure without the necessity of even a stucco finish.

The exterior walls of St. Anne's are beautiful in their plain white simplicity. No veneer of any kind has been used. In preparing the structural design, the engineer, W. Adrian, provided for a combination of both structural steel and reinforced concrete. Wherever possible open steel and lattice girders were used, thereby making it possible to get the maximum benefit of the concrete. By using a heavy wire mesh and stirrups for wrapping and by adding special reinforcing bars, the concrete not only serves as a fireproofing but has important structural and aesthetic values.

All of the concrete used in the construction of St. Anne's Church came from the

S. Rasori, Builder

ST. ANNE'S CHURCH, SAN FRANCISCO, CALIFORNIA
WILL D. SHEA, ARCHITECT

MAIN FACADE, ST. ANNE'S CHURCH, SAN FRANCISCO
WILL D. SHEA, ARCHITECT

ROSE WINDOW, ST. ANNE'S CHURCH, SAN FRANCISCO
WILL D. SHEA, ARCHITECT

central mixing plant of the Golden Gate Atlas Materials Company. The concrete was required to have a guaranteed strength of 2000 pounds per square inch. To insure workability, avoid segregation and provide an efficient dampproofing, every yard of concrete was given an ad-mixture of two pounds of Tricosol Normal. The latter is a liquid, void of fats, oils or bituminous products, and is perfectly soluble in water, which property gives penetration to all parts of the cement. For general work one pound of this liquid per yard of cement is used, this amount being sufficient to insure good workability and strength and prevents segregation, laitance and efflorescence. Where waterproofing and dampproofing is desired two pounds of Tricosol per yard of concrete are advocated by the manufacturers.

In pouring the walls the concrete was agitated by high frequency vibrators on the outside forms instead of the usual method of tamping. This resulted in a smooth, clean surface texture, the appearance of which was made still more attractive by the use of ship-lap wood forms for the general form work and plaster of Paris molds for the ornamental concrete. The only concrete not poured was the frieze over the entrance, skillfully executed by Sister Justina of the Mission San Jose. There are some eighty figures, representing religious characters, in the frieze.

The accompanying illustrations, made from photographs by Gabriel Moulin, show how perfectly the combination of materials and supervision has worked to achieve results. Note the absence of laitance at the beginning of the pour, the absence of streaky discoloration, due to efflorescence, and the avoidance of patch work.

The general contractor was S. Rasori to whom a great deal of credit must be given for his careful supervision of the work and splendid cooperation with those directly concerned in the undertaking. The interior of the church, which is not yet completed, will seat 5000 people and one of the imposing features of the great nave will be three beautiful rose windows, each 21 feet in diameter.

« « « « With the Architects » » » »

SIX STORY APARTMENT BUILDING

Charles E. J. Rogers, architect, Phelan Building, San Francisco, has prepared plans for a six story steel frame, Class C reinforced concrete apartment building which the Bargene Realty Company, as owners, will erect on Pacific Avenue, San Francisco. The structure will be 70x127 feet and will contain modern two, three and four room apartments. The estimated cost is $100,000. W. Adrian is the structural engineer.

PLANS READY IN OCTOBER

The office of Arthur Brown, Jr., 251 Kearny Street, San Francisco, expects to complete drawings early in October for the new Federal office building in the San Francisco Civic Center. The structure, five stories in height, will occupy the space bounded by McAllister, Fulton and Leavenworth Streets. Available for the project is $3,050,000. Construction, it is hoped, will go forward this fall.

SAN JOSE STORE ALTERATIONS

Bliss and Fairweather, architects, Balboa Building, San Francisco, have prepared plans and specifications for extensive alterations and additions to a two story store and loft building at Second and San Fernando Streets, San Jose, W. J. and George Liddicoat, Palo Alto, owners. There will be a market, restaurant, barber shop, lunch room, etc.

MEMORIAL PARK

Horace G. Cotton, landscape architect, has completed plans for a Memorial Park in Petaluma, founds for which are available from a bequest by the late Mrs. Wickersham. The plans call for a Moorish plaza, 150 feet square, surrounded by arbors, pergolas, fountains, pools, comfort station, tennis court, etc.

LOS GATOS RESIDENCE

J. F. Jacobsen of San Francisco, has had plans prepared for a $15,000 brick veneer California-Colonial residence in Los Gatos. Charles S. Strothoff, 2274-15th Street, San Francisco, made the drawings.

APARTMENT BUILDING

Plans have been completed in the office of H. C. Baumann, 251 Kearny Street, San Francisco, for a five and seven story steel frame and concrete apartment building to be erected at Second and Parnassus Avenues, San Francisco, for E. V. Raisch. There will be forty or more two and three room apartments. The building will be equipped with elevator service, steam heat, hot water, electric refrigeration and garbage incineration. The estimated cost is $250,000.

The same architect has also completed drawings for a two story stucco residence on Marina Boulevard, east of Fillmore Street, San Francisco, for Mrs. C. H. Mockbee. The house will have slate roof, ornamental iron grilles, gas steam heat, oak floors and electric refrigeration. The approximate cost is $16,000.

TWO IDENTICAL BIDS

Two bids identically the same were submitted to the government at Washington, D. C., for the erection of a post office building at Marysville, from plans by John J. Donovan, architect of Oakland. The K. E. Parker Company of San Francisco, submitted a bid of $107,700 and a similar bid was filed by the MacDonald Engineering Company, Chicago.

TWO RACING PLANTS

Construction of two racing plants is about to be started in Contra Costa County, one, a horse racing track, for Tom Kyne and associates, will be built at San Pablo from plans by M. J. Lyon, architect of San Francisco. The other, a dog track, will be built at El Cerrito from plans by Maury I. Diggs, architect of Oakland. The two plants will represent an expenditure of more than $500,000.

THEATER ALTERATIONS

Martin J. Rist, Phelan Building, San Francisco, has completed plans for alterations and additions to the Circle Theater, Market Street, San Francisco, the work to include a new front, marquise, terrazzo vestibule, marble glass wainscoting, new interior decorating, drapes and hangings.

COAST ARCHITECTS NAMED

Pacific Coast architects are well represented on the Standing and Special Committees of the American Institute of Architects, just announced for the year 1932-33. Edwin Bergstrom of Los Angeles is not only a member of the Executive Committee but he is named on the Investment and Finance Committees. Myron Hunt of Los Angeles is a member of the Jury of Fellows for a three year period. In the list of Standing Committees the Committee on Practice has for its Pacific Coast representative William Templeton Johnson of San Diego, E. Keith Lockard, Santa Barbara, J. E. Allison, Los Angeles, W. G. Holford, Portland, Oregon, and Robert F. McClelland of the Washington State Chapter.

On the Allied Arts Committee are William W. Wurster, San Francisco, and on the Contracts Committee, Lester W. Hurd of San Francisco and John Graham of Seattle.

Members of the Public Works Committee from the Pacific Coast include G. Frederick Ashley of San Francisco, Myron Hunt of Los Angeles, and Ellis F. Lawrence of Portland.

The Committee on Building includes Ernest Coxhead, San Francisco, John S. Siebert, San Diego, Winsor Soule, Santa Barbara, H. C. Chambers, Los Angeles, Roland E. Borhek, Seattle, Washington.

On the Executive Council of the Education Committee is Ellis F. Lawrence of Portland; on Registration Laws Committee is Albert J. Evers, San Francisco; on the National Capital Committee is John J. Donovan of Oakland, Harold E. Burket, Santa Barbara; Charles H. Cheney, Los Angeles; F. J. Delongchamps, Reno; W. R. B. Willcox, Portland, and Carl F. Gould, Seattle; on sub-committee on Exhibitions, William C. Hays, San Francisco; Industrial Relations, Harold W. Doty, Portland; Andrew Willatsen, Seattle; on Constitution and By-Laws, Edwin Bergstrom, Los Angeles; A. H. Albertson, Seattle; and Albert J. Evers, San Francisco; Health and Safety, Albert Farr, San Francisco, and Carl F. Gould, Seattle; Standard Accounting, Henry H. Gutterson, San Francisco; and Edwin Bergstrom, Los Angeles; Honor Awards, David J. Witmer, Los Angeles; Raymond W. Jeans, San Francisco, and Arthur Loveless, Seattle; Schedule of Charges, A. H. Albertson, Seattle; Committee on Building Practice, Lester W. Hurd, San Francisco; William Richards, Los Angeles, and John Graham, Seattle; sub-committee on Bidding Practices, George W. Kelham, San Francisco; State Societies, Edwin Bergstrom and Robert H. Orr of Los Angeles.

COURSE IN ARCHITECTURAL PRACTICE

J. Robert Harris of Hollywood, announces that he will conduct an evening class in architectural practice and building construction for a period of eight or nine months. The class will meet Monday and Thursday evenings of each week in room 203, 6715 Hollywood Boulevard. The course will be especially valuable, Mr. Harris states, for those preparing for examinations of the State Board of Architecture. Each student will be especially coached in those subjects in which he most needs instruction. The course includes theory of architecture, economic planning, contracts and agreements, professional ethics, specification writing, building ordinances and state laws, supervision of construction, strength of materials, mechanics of materials, design of wood and masonry construction, design of roof trusses and design of reinforced concrete.

EXHIBIT OF MR. HARRISON'S WORK

An interesting exhibition of the work of William H. Harrison, architect, was held in the Architects Building Material Exhibit, Fifth and Figueroa Streets, Los Angeles, the latter part of August. For the benefit of those who wonder what the service of an architect really means, Mr. Harrison exhibited preliminary sketches, study models, sample working drawings, specifications, full size details, and finally, the photographs of the completed structure.

Included in the exhibition were several pictures of the National Trust and Savings Bank of Whittier. Photographs and colored renderings of residences were also shown.

CONTRACT FOR BANK ALTERATIONS

Villadsen Brothers have been awarded a contract for $55,000 to make extensive alterations to the ground floor and basement of the five story class A bank and office building, Shattuck Avenue and Center Street, Berkeley. The lesses are the W. T. Grant Company, 1441 Broadway, New York City. The first floor will be lowered to the street level, new store fronts will be put in and there will be fixture work and an elevator.

EXHIBIT OF SCULPTURE

The Palos Verdes Community Arts Association announces that from August 31st to October 30th an exhibit of sculpture will be held at the Palos Verdes Public Library and Art Gallery by the following artists: Thyra, Boldsen, Ella Buchanan, Roger Noble Burnham, Maud Daggett, David Edstrom, David Gaffney, Merrell Gage, Jason Herron, Edna Kelly, A. Katchamakoff, Sherry Peticolas and George Stanley.

TO RELIEVE UNEMPLOYMENT

The Northern Executive Committee of the California Building Congress favors a two five-hour shift day on construction jobs with a view to spreading employment. Employers in the construction industry are being urged by the Congress to spread available work, consistent with economical and practical operation, so as to provide employment to the maximum number of men by the application of one of the following plans, the choice to be left to the judgment of the employer:

(a) Rotation of work by employing a definite percentage of new men at specific periods.

(b) Use of a six-hour day.

(c) Use of two six-hour shifts.

(d) Use of two five-hour shifts.

(e) Use of a five-day week.

(f) Use of two groups of three days each week.

The Committee has recommended a two five-hour shift day on construction jobs. This recommendation has received the approval of the Industrial Association of San Francisco and eight leading contracting firms. It was first put into practice by the Board of Trustees of the San Francisco War Memorial on January 18 last.

A similar plan involving rotation of work and reduction of hours has been recommended by the Southern Executive Committee. This proposal has been presented to the State Department of Public Works to be applied on state construction projects.

The Congress advocates that the per diem rates for all employees be consistent with present living conditions and values and that an effort be made to have public awarding bodies withhold penalty clauses from contracts.

About 18 months ago, the California State Chamber of Commerce initiated an employment stabilization program which has resulted in material benefit in the spread of employment on jobs throughout California. The Building Congress has followed this program. Recent emergencies have resulted in the organization of an Industrial and Banking Committee of the Twelfth Federal Reserve District to more actively deal with the employment relief problem in this western region.

STOCKTON ARCHITECT SUED

A Stockton newspaper says:

"Suit to recover $1579 in fees alleged paid Peter Sala, architect, for preparing plans for enlarging and remodeling the Hess-De Luxe Cleaning Plant at Van Buren Street and Harding Way, was filed in the Superior Court by Edwin Hess, co-proprietor of the plant.

"In the complaint Hess stated he signed a contract with Sala to prepare the plans in September, 1929, the cost of the plant not to exceed $25,000. Hess alleges he gave Sala a $300 retaining fee and when Sala presented the completed plans he received an additional $779.

"However, Hess charges, the lowest bid for the work was $40,975 and he ordered Sala to prepare another set of plans, again stipulating the construction work must not exceed $25,000. On presentation of a second set of plans, Hess states he gave Sala $500, but rejected the plans when the lowest bid was $38,000. He alleges he did not use Sala's plans, but went ahead with the work himself at a cost of less than $25,000."

SPENCER ELEVATOR COMPANY SOLD

The Spencer Elevator Company has been taken over by the Westinghouse Electric & Manufacturing Company and the company will operate in the future under the Westinghouse name. A. F. Skaife, who was right hand man for Franklin M. Spencer prior to the latter's death, has been appointed general manager and there will be no material changes in the policy or personnel of the old company, it is announced.

WATERPROOFING CATALOG

Samuel Cabot, Inc. of 141 Milk Street, Boston, have issued a new catalog listing two excellent products, Cabot's clear brick waterproofing and clear cement waterproofing. The book shows photographs of widely diversified buildings on which has been used the above mentioned products. These buildings embrace schools, colleges, hotels, residences and churches. The catalog is A.I.A. File No. 76.

CURE FOR EFFLORESCENCE

When the building revival begins science is ready with another improvement, says the Associated Press. This is a simple method of stopping efflorescence on walls, discovered in the laboratories of the School of Chemical Engineering at Purdue University. The article goes on to say:

"Efflorescence is the unsightly white streaking which has disfigured walls almost since the pyramids were built. Instead of being a sign of age as often supposed, this defacement is a peculiar by-product of leaks in the wall.

"Water soaking into the interior dissolves mineral salts. They run out with the water, which evaporates, leaving them to encrust the surface.

"Stopping the leaks by a tight wall protected from penetration cures this trouble. But there are tricks in these leaks, little things that for centuries have escaped the watchful eyes of many builders.

"One of these white spots was traced by the

Purdue investigation to a leaking joint three stories higher up and a quarter of the width of the building over to one side. Rain washing against the sides of well made walls does not penetrate, for the same reason that a tent or an umbrella does not leak. The water is excluded by a protecting layer of air in the pores of the building material.

"Even rain on unfinished, unprotected structures ordinarily runs off without penetrating deeply. This partial rain immunity has lulled builders into overlooking one of the worst sources of efflorescence—snow and ice."

"One of the most frequent causes," says H. C. Peffer, head of the school of chemical engineering, "has been found due to winter soaking, in cases where unfinished structures were left uncovered during the winter. A blanket of melting snow or ice liberates water slowly; this water sinks by the action of gravity and by its weight or hydrostatic pressure in the pore walls of the structure, until complete soaking frequently results.

"The effects may not appear for one or two seasons, but damage and an unsightly appearance almost inevitably result. In completed buildings, defective design, construction and maintenance have been found to cause great damage.

"Open joints in projecting ledges, windows, lintels and particularly in copings on parapet walls are fruitful sources of damage. In most cases these have not been properly protected in the design and construction of the building. Open vertical joints in cornices and parapets are the chief offenders.

"Most of the troubles may be cured by the insertion of 'flashings', a strip of impermeable material between the source of the leak and the wall proper.

"While no investigations have been made abroad, the question is raised by Purdue investigators, whether the failure of ancient historic structures in Europe, which is at present causing so much concern, may not be due to joints opened by age, instead of the climate, as now claimed. At any rate it appears incredible that the few simple facts causing so much annual damage should have been overlooked so long."

SEEK PUBLIC OFFICE

Ormond R. Bean, member of the firm of Lawrence, Holford, Allyn & Bean, is candidate for city commissioner of Portland, Oregon. A member of the advisory board of the Portland Housing Code, vice president of the Oregon state building code committee, three times president of the Oregon State Chapter, A.I.A., and former chairman of the city planning committee of the Portland City Club, Mr. Bean has been interested in civic affairs for many years. In 1919 he was associated with Charles H. Cheney of Los Angeles, in a housing survey which resulted in the Portland Planning Commission, and the subsequent Portland zoning ordinance.

Other candidates for public office in the Northwest include Roland M. Vantyne of Rigg & Vantyne of Spokane and Harold L. Cuniffee, county surveyor of Seattle, who filed for the state legislature.

SOME LARGE ELEVATOR CONTRACTS

Contracts recently awarded the Otis Elevator Company would tend to verify the persistent rumors emanating from Eastern points, that there is an upward trend in building activity beginning to manifest itself. These contracts comprise installations aggregating an expenditure close to $1,000,000 and are enumerated as follows:

Four passenger elevators and one freight lift are to be installed in the Veterans Administration Home, Roseburg, Oregon.

Two micro-drive passenger elevators with car switch control in the United States Post Office building, Long Beach, California.

Elevator installations in the Federal buildings, Washington, D. C., amounting to approximately $630,000. The Department of Justice building and the addition to the Library of Congress will receive respectively the following equipment: Thirty-one signal control skyscraper passenger elevators; two collective control and four large freight elevators. In the Library there will be installed two passenger, two electric freight, one "hand rope" and one "plunger" type elevators.

In the United States Marine Hospital, Chicago, two passenger elevators to cost $15,000 will be installed.

EASY FOR THE PLASTERER

Something has happened in the plaster industry. Following its recent announcement of the achievement of Tan Portland cement, the Pacific Portland Cement Company's Research Laboratories turned to plaster with a critical eye. Empire, the company's leading brand, had been "the same for 27 years" and was due for a change. Easy application without sacrificing results was the goal set for accomplishment.

"That success has crowned our efforts," said J. A. McCarthy, Vice President of the Company, "is indicated by the following incident: A plasterer, trying it out for the first time, upon being asked how he liked it, enthusiastically replied, "Why it spreads on just like butter! At last somebody has done something about taking hard work out of plastering."

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IMPORTED STEEL

More than one-half the structural steel shapes imported from Europe during the first six months of 1932 have been brought to New York, according to figures compiled from customs records, the American Institute of Steel Construction is informed. A total of 17,339 tons were imported during this time, of which 9,962 tons were entered at New York. A ton of steel represents one day's work for three men.

Owing to the heavy inland freight charge it is normally impossible to sell this steel for projects far in the interior although the records show that 109 tons were entered for Michigan. Boston imported 1,365 tons, Galveston imported 1,136 tons, Los Angeles imported 1,224 tons, San Francisco imported 874 tons, Baltimore imported 794 tons, and New Orleans imported 435 tons.

This is believed to represent a record as under normal conditions it is practically impossible to import such heavy structural material profitably. It is understood that it would not be possible to do it now except that the material is being purchased abroad at a figure much below what it costs the foreign makers to produce it.

The 209,003 tons of all foreign steel imported during the past six months has deprived American workmen of at least 600,000 man working days, or approximately $3,000,000 in wages.

TACOMA SOCIETY OF ARCHITECTS

Midsummer activities of the Tacoma Society of Architects included both educational and constructive features under the leadership of President Ernest T. Mock and Secretary A. J. Russell. Meetings held were:

July 11—Housing programs studied on a recent trip were explained by Ted Jacobson of Seattle. By the use of sketches, the application of these programs to local conditions was outlined.

July 18—Plans for a session with the Tacoma Downtown Association, which was held July 26, were made. At the joint meeting George Ekvall displayed a group of drawings depicting the proposed modernization of Pacific Avenue from South 9th to South 11th Streets. Roland E. Borhek and President Mock outlined the proposed throughcut of South 12th Street from Tacoma Avenue to Pacific Avenue. New methods of handling of store front designs were explained by Mr. Borhek from slides prepared by Prof. Harry Weller of Washington State College.

August 1—Artistic use of hardware in buildings was discussed by Joseph Russell from the Stattle branch of the Russell-Erwin Hardware Co. of New York City.

PERSONALS

S. Charles Lee of Los Angeles, accompanied by Mrs. Lee, left last month for an extended tour of Europe, sailing from Quebec August 26 to visit Germany, England, France and Italy. Mr. Lee's thought was that he would take advantage of the business lull and equip himself with European ideas.

Charles Ertz, architect of Seattle, Washington, attended the Olympic Games at Los Angeles.

COUNTY JAIL

Progress is being made on plans for a six story reinforced concrete county jail to be built on the Sneath Ranch, near San Bruno, San Mateo County, for the City and County of San Francisco. Bonds amounting to $700,000 for the work have been authorized. The architects are Albert F. Roller and Dodge A. Riedy, associated. H. J. Brunnier is the engineer.

MEMORIAL TOWER

The San Francisco Art Commission has approved Arthur Brown's drawings for a reinforced concrete memorial shaft to crown the crest of Telegraph Hill. Bids have been taken and a contract is expected to be signed shortly by the Park Commission, the low bidders being Young & Horstmeyer.

BERKELEY STORE BUILDING

James W. Plachek, architect of Berkeley, has completed plans for a one story reinforced concrete store building, 40x90 feet, to be erected on Telegraph Avenue, south of Durant Street, Berkeley, for Mademoiselle Sonia Poppic. The Public Food Stores have leased the premises.

CHURCH ALTERATIONS

Milton W. Morrison, architect, 601-42nd Avenue, San Francisco, has awarded contracts for modernizing the Fourth Church of Christ, Scientist, at 300 Funston Avenue, San Francisco. The work will include sandblasting, waterproofing and painting.

ENGLISH RESIDENCE

Plans have been completed and bids have been taken for a two story and basement English residence at San Anselmo, Marin County, for E. H. Maggard, 116 Locust Street, San Rafael. Warren C. Perry is the architect of the $20,000 house.

TO REBUILD GARAGE

The Tahoe Tavern garage at Lake Tahoe recently destroyed by fire, will be rebuilt. Matt Green is the owner.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This Month: Lead, Copper, Hardware, Steel and Glass Advanced in Price Again This Month.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $26 to $32 per 1000 laid, (according to class of work).
Face, $60 to $80 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.85 lin. ft.
Brick Walls, using pressed brick on edge, 55c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.60 sq. ft.
Common, f. o. b. cars, $14.00 plus cartage.
Face, f.o.b. cars, $38.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—40c to 55c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Elliott top gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.25 per bbl. In paper sks.
Cement (f.o.b. Job, S. F.) $2.40 per bbl.
Cement (f.o.b. Job, Oak.) $2.40 per per bb
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 27c per cu. ft.
4-inch concrete basement floor.....12½c to 13½c per sq. ft.
4½ inch Concrete Basement floor.....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 16c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—

Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—

Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices dellvered to bldg. site)

Common, $22.00 per M (average).
Common O.P. select, average, $25.00. per M.

1 x 6 No. 3—Form Lumber	$16.00 per M
1 x 4 No. 1 flooring VG	55.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	$45.00 per M
1¼x4 and 6 No. 2 flooring	65.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.75 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$100.00 M ft.		
1 1-16x2¼" T & G Maple	127.00 M ft.		
⅞x3½ sq. edge Maple	120.00 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$175.00 M	$125.00 M	$168 M
Sel. Qtd. Oak	115.00 M	95.00 M	110 M
Clr. Pla. Oak	110.00 M	87.00 M	96 M
Sel. Pla. Oak	106.00 M	68.00 M	82 M
Clear Maple	110.00 M	82.00 M	

Laying & Finishing 14c ft. 12 ft. 11c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.65
2 ply per 1000 ft. roll	4.00
3 ply per 1000 ft. roll	6.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—

O. P. $74.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, lncluding trim (single panel, 1¾ in. Oregon pine) $5.75 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.50 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.25 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work .....27c per yard
Three-coat work .....36c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 70c per gal, in cans and 80c per gal. in drums.
Raw Linseed Oil—62c gal. in bbls.
Boiled Linseed Oil—65c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 10¾c
500 lb. and less than 1 ton lots 11c
Less than 500 lb. lots.....11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. keg s,net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

¾-inch hot roll channels, $72 per ton.

Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cara, $2.16
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $55.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$80 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $73 to $78 per ton cost of steel; average building, $77.00.

Steel Reinforcing—

$68.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Tile — Floor, Wainscot, Etc. — (See Dealers).

1932 Wage Schedule for San Francisco Building Trades

Established by Builders' Exchange and Endorsed by Various Crafts

Craft	Wage Per Day
Asbestos workers	$6.40
Bricklayers	8.80
Bricklayers' hodcarriers	5.60
Cabinet workers (outside)	7.20
Caissnn workers (open)	6.40
Carpenters	7.20
Cement finishers	7.20
Cork insulation workers	7.20
Electric workers	7.20
Electric fixture hangers	6.40
Elevator constructors	8.00
Helpers	5.60
Engineers, portable and hoisting	7.20
Glass workers	6.80
Hardwood floormen	7.20
Housemovers	6.40
Housesmiths, architectural iron	7.20
Housesmiths, reinforced concrete or rodmen	7.20
Iron workers (bridge and structural) including engineers	8.80
Laborers, building	5.00
Laborers, common	4.00
Lathers, channel iron	8.00
Lathers, all others	6.80
Marble setters	8.00
Helpers	5.00
Millwrights	7.20
Model makers	8.00
Model casters	7.20
Mosaic and terazzo workers	7.20
Helpers	5.00
Painters	7.00
Painters, varnishers and polishers (outside)	7.00
Piledrivers and wharf builders	7.20
Piledrivers, engineers	8.00
Plasterers	8.80
Plasterers' hodcarriers	6.00
Plumbers	8.00
Roofers, composition	6.40
Roofers, all others	6.40
Sheet metal workers	7.20
Sprinkler fitters	8.80
Steam fitters	8.00
Stair builders	7.20
Steel pan, concrete	5.60
Stone cutters, soft and granite	6.80
Stone setters, soft and granite	7.20
Stone derrickmen	7.20
Tile setters	8.00
Helpers	5.00
Tile, cork and rubber	7.20
Auto truck drivers, less than 2500 pounds	5.50
do, 2500 lbs. to 4500 lbs.	6.00
do, 4500 lbs. to 6500 lbs.	6.50
do, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
do, 2 horses	6.00
do, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
do, 4 horses	6.00

GENERAL WORKING CONDITIONS—

1. Eight hours shall constitute a day's work for all crafts, except as otherwise noted.
2. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
3. Five days, consisting of not more than eight hours a day, on Monday to Friday inclusive, shall constitute a week's work.
4. The wages set forth herein shall be considered as net wages.
5. Transportation costs in excess of twenty-five cents each way shall be paid by the contractor.
6. Traveling time in excess of one and one-half hours each way shall be paid for at straight time rates.
7. Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturdays (except Laborers), Sundays and Holidays from 12 midnight of the preceding day, shall be paid double time.
8. On Saturday Laborers shall be paid straight time for an eight-hour day.
9. Where two shifts are worked in any twenty-four hours, shift time shall be straight time. Where three shifts are worked, eight hours' pay shall be paid for seven hours on the second and third shifts.
10. All work, except as noted in paragraph 11, shall be performed between the hours of 8 a. m. and 5 p. m.
11. In emergencies, where premises cannot be vacated until the close of business, men then reporting for work shall work at straight time. Any work performed on such jobs after midnight shall be paid time and one-half up to four hours of overtime and double time thereafter, provided, that if a new crew is employed on Saturdays, Sundays or Holidays which has not worked during the five preceding working days, such crew shall be paid time and one-half. No job can be considered as an emergency job until it has been registered with the Industrial Association and a determination has been made that the job falls within the terms of this section.
12. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
13. Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours' pay.

NEW STANDARDS FOR ZONING

New standards of zoning are urged by Arthur C. Holden of the New York Chapter of the American Institute of Architects. These cannot be achieved, however, unless the present practice of land taxation is revised, according to Mr. Holden, who points out that the price of land still exercises far more control over zoning than the standards set by zoning have yet been able to exercise over price.

"A control which will tend to keep down the price and prevent exploitation will encourage better standards of use, and as a result better types of housing," he says. "There is the need for a new type of planning and development, and possibly even a new principle to be introduced into zoning regulations.

"This will compel the planning of neighborhoods in larger units. It will curb the destructive forces which still are generated under present usage. Under the new method of regulation less emphasis will be placed upon restricting individual plots and instead a premium will be put upon group and neighborhood planning.

"As a prelude to this it may be expedient to tighten restrictions upon individual plots to the end that these restrictions may be relaxed in cases where owners either unite or co-operate to utilize land advantageously. The concentration of buildings is advantageous if this concentration permits better provision for open spaces.

"When whole neighborhoods are planned as a unit permanent light and air and permanent desirability can be assured. In brief, this means the revamping of much of our zoning theory and the rewriting of standards in the interest of the public benefit instead of the interest of the exploitation of individual plots of land. Such standards will have a very definite effect upon the type of dwelling in which the Americans of the future are to live.

"But, such standards cannot be achieved unless there is also to be a revision in our present practice of land taxation. Tax assessors have seen in high buildings an indication of higher land values. They have been alert to increase assessments not only upon the land on which high buildings stand, but also upon adjoining property.

"There is little doubt but that these adjoining properties have felt the pressure of the higher taxes and as a result have been held for prices adequate to compensate the owners for the expense of carrying them.

"Hence our method of assessing properties has had its influence in retarding their development and then forcing the ultimate development to the limits of allowed density. The English system, which bases its tax rate on the use value of the land, has a less burdensome effect upon those who are carrying properties and does not, at least to such an extent as our own system, influence owners to overdevelop.

"Open land is a distinct advantage to a community, especially if properly maintained. Too frequently the American tax assessor forces the destruction of open spaces. Over and over again we hear the story that a golf course, a private estate, a farm or a nursery, is to be divided up into building lots because high taxes have made their maintenance impossible. Were the tax based upon use or earnings the open space might be maintained.

"In this day of easy transportation, it is in the public interest to assist semi-public organizations to maintain open spaces within the great centers of population. The principle of tax limitation which has been tried for the purpose of stimulating housing and other desirable enterprises might very well be applied to organizations which will contract to maintain desirable open spaces.

"There is, however, a principle which must be enacted into legislation so that the principle of tax limitation may not be abused, and made a means for the systematic evasion of taxes on properties carried over long periods. Many communities have had unhappy experiences with tax exempt properties.

"Churches, hospitals and religious and educational institutions have long been exempt from the realty tax. These organizations are permitted, however, to sell their properties without compensation. There is the growing need for an increment tax to be levied upon tax exempt properties at the time of their sale. The imposition of such a tax would tend to equalize the tax burden.

"It would serve as a deterrent upon sales for speculation profit. It would give owners adjacent to a desirable open project such as a golf course, or a private park, a reasonable assurance of its continuance and in the event of partial or total sale the increment tax would tend to equalize the tax burden. Under such a provision private parks and open spaces should be stimulated and living conditions improved.

"All of these things are of interest to real estate men. Most realtors would have been far more active in planning for the future and for the economic control of realty developments had they not been pre-occupied with making a profit out of brokerage. Today brokerage is not profitable. New channels of service must be sought by realtors.

"Just as soon as the public awakes to an understanding of the value of such services the public will be willing to compensate its realty advisors

adequately and properly. Rome was not built in a day and the whole structure of realty and building cannot be remade over night. The public must be sold on the new idea, and that the realtor is a trustee trained in a specialized calling, and not a commodity merchant depending upon trumped up enthusiasm to make a sale."

WASHINGTON A.I.A. CHAPTER MEETS IN SEATTLE, SEPTEMBER 8TH

The program committee of the Washington State Chapter, A.I.A., held its first fall meeting on September 8th, Donald Thomas, chairman. J. Lister Holmes, Chapter president, is cooperating with Roland E. Borhek, temporary chairman of the Washington Trade Recovery Committee, in organizing a program for renewal of building activity under the Federal reconstruction program. A. M. Young of Schack and Young, architectural firm in the Central Building, Seattle, is named advisor for the Northwest Washington Division of the Trade Recovery Committee. At the meeting on September 8th an outline for the Chapter's 1932-33 season was discussed at length.

TACOMA ARCHITECTS, INC.

Roland E. Borhek, past president of the Washington State Chapter, A.I.A., succeeds Stanley T. Shaw as president of Tacoma Architects, Inc. of Tacoma. Earl Dugan was named vice-president. The office of secretary-treasurer will be selected by the board of trustees, composed of Stanley T. Shaw, A. J. Russell, Ernest T. Mock and the two newly elected officers.

The corporation was organized in 1929 for cooperative effort in certain fields by a group of fourteen representative architects. Plans now are being made for the modernization of Pacific Avenue in Tacoma, in conjunction with the Tacoma Downtown Association.

THE FINE ARTS

An extensive development of the fine arts department of the College of Architecture at the University of Southern California has been announced by Dean Arthur C. Weatherhead in the new fall session bulletin. The fine arts courses have been revised and now consist of four year courses leading to the degree of bachelor of fine arts, including the following: General painting, mural painting, interior architecture, sculpture, and decorative design.

ARCHITECTS MOVE

Myron Hunt and H. C. Chambers, architects, have moved their offices from 1107 Continental Building, Los Angeles, to suite 1218 in the same building.

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(Organized 1857)

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Other recent installations of outstanding interest completed by the Steelform Contracting Company are the San Francisco Women's College, the San Francisco Seal's Baseball Park, Oakland Post Office Building, Christian Brothers Noviate, Napa, California State Building, Los Angeles, Southern California Edison Office Building and St. Joseph's Hospital, Los Angeles, and the United Artists Theater, Hollywood.

O. A. MALONE

O. A. Malone of the Malone Stucco Products Company of Los Angeles died August 24 following a somewhat protracted illness. For a number of years Mr. Malone was connected with the California Stucco Company. For the last fifteen years he had been active in promoting the use of stucco and was responsible for much of the progress and development of texture plaster. He was considered an authority on stucco.

LOS ANGELES GETS BANK

Los Angeles has secured the Federal Home Loan Board's approval for a branch bank in that city, following a campaign inaugurated by the Los Another organizations, including Southern California Chapter, American Institute of Architects nia Chapter, American Institute of Architects, which forwarded to Washington the following resolutions:

Whereas, The need for additional housing is acute in many cities of California and recovery from the depression can come quickest from revival of the building industry; and

Whereas, The greatest difficulty of home building in the past has been the matter of financing and this difficulty is particularly obstructive now in the time of the depression. Now therefore be it

Resolved, That the Southern California Chapter of the American Institute of Architects respectfully petitions the Federal Home Loan Board to establish a Home Loan Bank in Los Angeles as the most convenient center for the transaction of such business in this district.

HAYWARD SCHOOL ADDITION

A $20,000 shop building and music hall is to be built at the Hayward Union High School from plans by Henry C. Smith, architect, and W. Adrian, structural engineer, San Francisco. The building will be of reinforced concrete, two stories, and will cover ground area 60 by 170 feet.

MARYSVILLE SCHOOL

James Arnot, 6015 Hillegas Avenue, Oakland, is completing plans for a $40,000 frame and stucco primary school building at Marysville, Yuba County.

COUNTRY ESTATE

Drawings have been completed in the office of Willis Polk & Company, 277 Pine Street, San Francisco, for an English type country house to occupy a fourteen acre tract in Hillsborough, San Mateo County, for Thomas Fortune Ryan III.

LODGE BUILDING

A three story Class C lodge building is planned by the Royal Order of Moose at Santa Cruz. Drawings have been made by Edwards and Scharey, 550 Montgomery Street, San Francisco.

BERKELEY RESIDENCE

Williams and Wastell, architects of Oakland, have completed plans for a residence in Berkeley for C. Henning and a contract has been awarded to F. A. Kurtz for approximately $25,000.

PRE-FABRICATED HOMES

[From the Octagon]

Inventive genius has produced for the building industry countless materials and devices but up to the present time has been strangely inactive in devising new methods of construction. There have been few progressive improvements in structural principles involved in home building and we still employ the same methods which have been in use for hundreds of years.

The present period of economic stress is forcing the building industry to a more serious consideration of simpler and less expensive construction. Mass production of standardized units, lighter walls and floor systems, and better provision for insulation and fire protection may result from the intensive study of this interesting problem.

Producers see a possible outlet for their products and increased sales brought about by making home ownership possible to a large number of potential buyers who are not now financially able to build. There is, of course, the danger of loss of individuality and architectural character unless these qualities are intelligently considered. There may be a tendency to produce quantities of mere boxes which would be sorry excuses for human habitation.

One type of house which has attracted considerable attention is built entirely of sheet metal. Its construction requires about fourteen tons of steel. It is claimed that this type of house can be built for less than the ordinary frame house.

Rock wool is used to fill the box-like corrugations of which the walls are constructed and this serves as insulation and sound-proofing. A layer of wood fiber board is fastened to each metal sheet, both inside and out, and asbestos board, fastened to the outside with a structural adhesive, serves as protection from the elements. The interior is then finished with wallpaper or other decorative treatment.

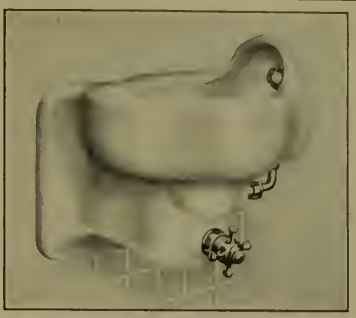
The lumber industry is also attempting to develop a house which can be built in sections in the mill and erected with a minimum of time and labor. Standardized units for walls, floors and roofs can be constructed in quantities, transported to the building site and assembled. Again, the biggest problem is how to produce such a house and at the same time give each structure an individual touch to distinguish it from its neighbors.

A porcelain enamel house has been developed and has possibilities of manufacture on a mass production basis. The units of which it is composed are shallow rectangular panels with a cellular or fibrous board applied to a framework of fabricated sheet metal studding. These panels are held in place by a special system of bolts. Exterior finish is a matt glaze porcelain, resembling in color a rich buff limestone. Vertical joints are covered with porcelain enamel battens to keep out the weather, and horizontal joints are of a special ship lap type.

The interior can be some form of plaster base such as insulating wallboard or metal lath. Wall spaces will be filled with insulating material. Floors are to be framed of steel joists built up from welded sheet metal.

One of the problems involved in pre-fabricated construction is that of keeping the individual units sufficiently light in weight to permit ease of transportation and erection. Small units provide greater flexibility in arrangement and are less apt to offend the sense of scale. Carefully designed units, intelligently assembled, should be adaptable to low cost homes with some architectural merit.

Cutting and fitting materials on the job is always a wasteful and costly procedure. For some unexplainable reason the building industry has neglected this obvious defect in method and, as a consequence, home construction has not kept pace with other classes of construction. The architects' cooperation in these new developments is essential or the result is most certain to be monotonous repetition of characterless structures, devoid of interest and lacking in those qualities which are necessary to encourage home ownership.



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ARCHITECT LAUDS CONTRACTOR

By KENNETH M. MURCHISON, *Architect*

The art of contracting for the erection of buildings has changed quite a bit since the World War. Commercialism is rearing its Medusa-like head more and more. New conditions have arisen, and the contractors, like all other good American citizens, must meet and conquer.

Besides having to be more efficient, more zealous and more omniscient than ever before, the modern contractor is, more often than seldom, called upon to assist in the financing of new projects. And he does it not only to clinch the job in the first place, but because he has found out that there is money in it for him.

He has become aware, that under the old system the banker or the bond house or whoever hands out the wad gets the most profit out of it, and he now affiliates himself with some responsible financial house with a lookin on some of the French dressing or gravy, or perhaps he does the banking.

Any contracting firm which can help out the owner of a piece of property by doing his secondary financing is in a much better position to get the job than is the pure but bankerless builder. And that is why I sometimes feel sorry for the small fellow who announces that he started in the building game but who has not tied himself up with some mammonly partner. This kind of builder will have to content himself with small jobs, with alterations and with country houses, but that is not the way leaders in the contracting business think it should be prosecuted in these modern days. Unless he wants to be always a small contractor forsooth (and, by the same token, there will always be small jobs for the small contractors), the building builder should either marry a girl whose old man is a retired capitalist and who believes in his son-in-law, or get somebody with a great roll of cash to help him over the jumps.

One of my friends is the head of a building corporation that earns its livelihood by competitive bidding. This young fellow is always busy; he is always excited; he is bidding on four or five things at the same time; and he is always losing a $200,000 job by $180! Or, in those delicious moments when he is the lowest bidder, the Board of Selectmen decides to take some of the alternates, and my friend again loses the job by $84.37!

But he likes it. The game is something like golf. There is always that ray of hope dangling before his eyes that he may do the next hole in three, or be able to hit the ball on the nose.

Those architects who try to put through a building operation by means of subcontracts are really entitled to the pity and sympathy of their con-

freres. In the first place, few architects are properly set up for such a project. Architects' superintendents are not building superintendents, and the building superintendent that an architect gets to carry out a subcontract job is generally one of a crowd of floaters, which class of employees can get the architect into plenty of trouble.

It does not seem natural that an architect can do the actual construction work for a client at a saving which might offset the general contractor's fee. Certain it is that the architect, when he lets himself in for this sort of thing, is doing nothing but hunting trouble. Has he an estimating department? Is he au courant with the prevailing prices on all subcontracts? Has he any other jobs being done by the same subcontractors, so that the subcontractor may combine his superintendence and overhead on two jobs close to each other? Where is his transportation department? And who meets the general payroll each week?

The modern up-to-date American general contractor is entitled to the admiration of the architectural world for his capacity, his looking-forwardness and his faculty for administration.

When you come to analyze it, the administration of a speedy, complicated and difficult building operation is amazing. There are a myriad of things to contend with. Everything necessary to be delivered on a certain day is there that day. And the gang that handles it is there as well, overalls on, waiting for it. As to delivery of materials at the building, that too is more onerous than it used to be, because our street traffic no longer admits of great piles of brick and dirt and broken stone taking up half the roadway. The placing of the ground floor slab in jig time is of paramount importance, serving as it does a multiplicity of uses, one of which is to keep the architect from falling into the cellar.

The builders who are also bankers can, as I said before, put over a deal with consummate ease compared to the contractors who have to go outside for their money. But they have to wear smoked glasses day and night. They are beset by propositions of every kind, propositions for which trusting architects have drawn up elaborate sets of drawings, added to which are the promoters' works of art in the way of financial set-ups.

But the questions of demand for space, junior financing, cubic cost and other little items of interest and taxes often turn themselves into such bacteria of trouble that the whole thing resolves itself into a total waste of time for all concerned. That seems to be the fate of 19 out of 20 projects which find their way into the developing room of a big building organization or an architectural office which has the reputation of going into deals.

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Would you bring your boy up to be an architect? Well, I believe I would, if he exhibited any tendencies that way, and also, if I had one. He needn't expect to die rich, nor will he ever be the President of the United States, but he will have a good time out of life and should enjoy a reasonably happy social position.

But would I bring him up to be a builder? That is another matter. He would have to look up to, or pretend to look up to, the architects from whom he is trying to get a job, and that might kill him off early in life. Then besides he would probably be in a fight with the unions most of his life, and that is not so pleasant either. He is blamed for everything that they think the architect should be blamed for, and he always has to pay for mistakes made by some mysterious draftsman.

Perhaps some day the big builders will swallow up the architects. This pretty little how-d'ye-do has been a matter of discussion time and time again. A few big companies like the Fred F. French aggregation seem to get along very well with their own architectural forces, but one cannot help thinking that every once in a while a little bird's eye viewing wouldn't do any harm.

There is no doubt that the big concerns, if they wanted to cut out the architects from their field of vision, could easily get very competent designers to head their departments for $15,000 or $20,000 a year—perhaps less. The companies, however, with but few exceptions, prefer to sidestep that question entirely, just like the politicians on the Prohibition question, and remain in a receptive mood to the blandishments of the architectural profession, to give or take as the case might be.

In the old days there used to be a feeling of distrust in the building industry between the architects and the contractors, but happily that condition is entirely a thing of the past, and nowadays architects and builders may be seen walking hand in hand up Fifth Avenue and eating out of the same plates in low priced restaurants.

Anyhow, taking it by-and-large, putting up a modern skyscraper or a big hotel in a few months' time is a man's job, and it belongs to the contractors—not to the architects.

There is a great pile of dollars yet to be made in real estate and in buildings, and that is where the architect should take stock of himself and consider investing his surplus cash. Not in Wall Street, my brothers, where nobody knows what he's really doing until he is broke, but in city property which, if well situated, has comparatively little chance of declining in value. Then, in the development of that city property along well studied lines is where the architect should shine.

A few architects have taken advantage of their opportunities and have invested in building oper-

ation, but they could be counted, here in New York at least, on one's fingers. The rest of them, when they get anything laid up, either buy their wives chinchilla coats, or go down town and ask their stock brokers to recommend something.

And what does a broker know? Nothing, my friends; or if nothing, then next to nothing. 'Rock Island is well thought,' or 'Castor Oil is due for a rise,' or 'They're going to cut a melon in 'Transcontinental Food.' That is the kind of stuff that is handed out to the prospect.

A big contractor is something like a big chef. Does a big chef cook? He does not. He is a business man. It is his business to make the kitchen pay. And if it does not pay, it is up to the chef to find out why it doesn't pay and to stop up all the leaks. He might go up to the range occasionally to taste the sauces, and so might the big contractor go over to his buildings from time to time to see whether the job is moving along as it should move. But the big contractor need not necessarily be an expert builder. He is a financier, an organizer, a pusher, an analyst of men, a diplomat. It is he who is responsible for the tremendous stride of the building industry of the United States. Without his genius of organization and of driving capacity our great skyscrapers and mammoth commercial structures would not be possible today. If he had not devised ways of erecting these structures in ten or twelve months, the interest charges and fees would eat them up, and the projects would fall by the wayside.—*Architectural Forum.*

NEW PROBLEM AT BOULDER CITY

The recent flood in the Colorado river at Hoover dam site presented the Government with a new problem in sedimentation and filtration at Boulder City. Great quantities of clay were washed out of the Painted Desert in Arizona by cloudbursts and the solids carried in the water reached the amazing proportion of 8.44 per cent as compared with a normal of about one per cent. This clay clogged the filtration plant of the water sytem at Boulder City and the deposits of mud in water coolers, water heaters, boilers and locomotives caused an infinite amount of trouble.

To meet the shortage of water for domestic use, water was hauled into Boulder City from Las Vegas. The Six Companies, Inc., contractors on the dam, brought in by truck from Los Angeles 300 ten-gallon milk cans to be used in distribution of drinking water from Las Vegas. The situation is rapidly being cleared up, however, and Boulder City's normal water supply will soon be restored.

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REMODELING BOOSTS RENTALS

What to do with old "cold-water" tenements is a perplexing problem in large cities these days, says a writer in *Building and Building Management*. These old structures, most of them thirty or more years old, were built for a by-gone age, and in their original state have only the most meager of living comforts. Today even the low-income people who make up their tenancy demand modern conveniences and necessities.

New York has literally thousands of such buildings, built originally either as walk-up apartments or as private dwellings that have been converted for multi-family use. Many of the best management agencies and estates have them on their lists. Improvements have been slow in coming, the general thought being to keep them operating in some fashion until the march of progress and high land values will replace them with modern fireproof apartment or business buildings.

Now, however, various influences are intensifying the problem. In recent years hundreds of inexpensive buildings have been erected on cheap land in the outlying sections, offering modern design and equipment. The depression has shelved whatever plans may have been made for replacing the older buildings. Taxes stay high. And all in all, the pressure on the owners is severe.

Modernization and renovation seems the answer, and indeed many of these tenement buildings are being remodeled with surprisingly good results. There are, of course, some definite limitations as to the changes that can be made. There are legal restrictions, for one thing; and the shape and layout of the buildings themselves is a handicap. Nevertheless, the installation of modern equipment in bathrooms and kitchens, modern decoration, some rearrangement of rooms, the installation of good heating plants and hot water systems—all of these improvements are possible without excessive cost, and buildings thus improved are finding a good rental market.

A little building at 504 East 84th Street, New York City, is a typical case. Like the great majority, this building is but 25 feet wide, on a lot 100 feet deep; each floor is divided down the middle into two apartments. L. S. Metzger, an electrical contractor, owns and manages the property, and planned and executed the remodeling.

Originally there was but one toilet on each floor, which was shared by the two apartments. There were no bathtubs, and the kitchen equipment totaled a gas range and a sink. Only cold water was supplied.

The major part of the modernization, therefore, consisted of putting in full bathrooms, and equip-

ment. Each apartment now has its own tiled bathroom with combination tub and shower, modern plumbing fixtures with flushometers, and so forth. The kitchens have been thoroughly modernized and equipped with mechanical refrigeration, modern sinks, attractive gas range, built-in cabinets, and all of the rest that might be found in a high-class apartment building.

The kitchens have been cut down to efficient proportions, the extra space going into a dining room. Dish cabinets are the only separation between the two,leaving the dining room open to the rear windows.

The building has been completely re-wired for electricity, the system now providing a full outlay of ceiling and sidewall fixtures and base outlets comparable to the best of dwellings.

A hot water sytem has been installed, thus lifting the building out of the "cold water" classification. A new steam heating plant has also been added.

Complete redecoration is another important improvement. The entrance and stair halls have been completely redone in a light color scheme of tan and buff. No major changes were made in the woodwork, except, of course, the repainting. Other improvements in the halls include marble stair treads between the first and second floor landings, linoleum on other stairs and hallway floors, and new lighting fixtures. Modern letter boxes were put in the lower hall.

A stairway, with an overhead skylight, was built leading to the roof. The stairs make the roof available to tenants, and the skylight greatly improves the appearance of the stair well.

Although the exterior of the building was in general satisfactory, to set the building apart from its unimproved neighbors considerable changes were made. The outside of window frames was painted a cheerful green. A wrought iron rail of slightly modernistic design runs across the front of the walk and up the stairs to the entrance. The main doors were replaced with new oak ones in light finish, trimmed with wrought iron embellishments and hardware. Repainted in light colors, the heavy sheet-metal cornice is another conspicuous improvement.

Although naturally the shape of the building was a handicap, considerable improvement has been made in the apartment layouts. Much waste space was taken out of the hallways and added to the usable area. The old "parlor" was deepened to make a larger, more attractive living room. One tiny bedroom was eliminated from the center space. This change gives two court windows for one of the bedrooms. The front one is open to the living room through French doors.

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As a result of the comprehensive remodeling, the rentals have practically doubled. Whereas neighboring buildings, unimproved, are having difficulty renting their apartments at an average of $27 to $30 a month, the suites here were quickly taken at from $55 to $60. When the changes had only been completed for about ten days, Mr. Metzger reported that six of the ten apartments had been rented at the scheduled prices.

STATE CONVENTION

The annual convention of the State Architects Association of California will be held at Hotel Del Monte October 7 and 8.

The opening session will be held at 9 a. m., Friday, October 7, with President A. J. Evers presiding. At 1 p. m. there will be a luncheon, with H. Roy Kelley as chairman; subject "The Present Field for Architects." At 3 p. m. the delegates will take a motor trip to Carmel Valley.

The annual banquet will be held at 7 p. m. Louis J. Gill will be toastmaster. The subject of the evening will be "An Architect's Obligations."

1. "To the Public," James S. Dean.
2. "To the Client," Abe Appleton.
3. "To the Profession," David Witmer.
4. "To the Credit Association," Chorus of Architects.

The closing business session will be held at 9 a. m., Saturday, October 9, Vice-President Robert H. Orr presiding.

SOUTHERN CALIFORNIA CHAPTER

The September meeting of the Southern California Chapter, The American Institute of Architects, was held at the French Table d'Hote Cafe, 3070 West Seventh Street, Los Angeles, Tuesday evening, September 13. Doctor Eugene Gustav Steinhof, Director of the National School of Decorative Art at Vienna, was speaker of the evening. Preceding the meeting, the members assembled at the Armstrong Studios, 1717 Cordova Street, where they were given an opportunity to view the murals being done by Dean Cornwell for the Los Angeles Public Library.

C. FERRIS WHITE, ARCHITECT

C. Ferris White, who died recently in Everett, Wash., designed many of the best buildings in Everett, also the State Normal School at Cheney, and buildings all over the state and in Idaho.

Born in Chicago, Mr. White came to Everett in 1895. Prior to that he had been for a short time in the Washington, D. C., offices of Edgar Blair of Wright, Blair & Co.

Mr. White was ill only a few weeks, and celebrated his 62nd birthday recently. He drew plans for 63 schools in the state of Washington.

LOS ANGELES GETS BIG LOAN

A loan of $40,000,000 for the Los Angeles Metropolitan Water District has been granted by the Reconstruction Finance Corporation.

The metropolitan district covers more than a dozen Southern California cities. It is planned to pipe water from the Colorado river above Hoover dam at a final cost of $220,000,000.

The loan will be made through the purchase of $40,000,000 of 5 per cent bonds of the water district. A total of $20,000,000 will be advanced within the first year and $20,000,000 the second year, but prior to January 23, 1934, when the authority of the corporation to engage in such operations is terminated by law.

The corporation in announcing the loan said 1000 men probably would be employed by the end of this year and about 4500 by July 1, 1933.

"Besides the creation of employment directly on construction work," said the corporation, "much indirect employment will be created, for a vast amount of materials and supplies will be required. The aqueduct itself will be 239 miles long. Eighty-five miles of tunnel must be driven through the mountains and lined with concrete. The finished diameter of the bore will be about 16 feet.

"The longest single tunnel, the San Jacinto, will be thirteen miles long. The time necessary to complete the entire project will be governed by the progress of work on this tunnel. It is estimated to require about five and one-half years, and it is believed the entire project can be finished in six years."

RADIATOR FOR SMALL BATHROOM

The problem of placing the radiator in the small bathrooms of a large apartment house was solved by one firm of consulting engineers by locating an extended surface copper unit in the wall above the closet bowl. The required amount of radiation, as in most apartment bathrooms, was very small, so that the radiator is only a few square feet.

The disadvantage of the location is that the bottom grille of the radiator "chimney" is some distance above the floor. In the case of such small rooms, however, it is doubtful if this disadvantage is of any importance.

The recess, which is 5 in. deep and accommodates a 4 in. wide radiator, has no insulation in back, and the whole installation was quite simple and inexpensive.

NAMES OMITTED

The State Board of Architectural Examiners, Southern District, through the co-operation of the Southern California Telephone Company, has succeeded in having the names of alleged violators of the architectural codes deleted from the new directory which is now on the press.

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UNIFORM BUILDING CODE

The California State Chamber of Commerce is now completing its Uniform Building Code, California Edition, which it will propose for adoption by California municipalities. Before the code is finally written, the Chamber desires to hear representatives of all producers of materials and safety appliances for buildings and all associations of constructors and others interested in the requirements of a code.

The Chamber will conduct hearings up to October 12, this year, and will endeavor to arrange such hearings either in Los Angeles or San Francisco, at the option of the applicant for a hearing.

Each hearing will be in charge of a member of the Code Executive Committee of the Chamber, and all matters presented at the hearings will be taken under advisement by the representatives of the Chamber.

Only one hearing can be given to any association or to any branch or trade of the building industry, or concerning any material, safety appliance or method of construction.

The amount of time that can be given to each applicant for his hearing will be set by the Chamber, and the hearing will be closed when the allotted time has ended. Necessarily the time given to each applicant will be limited.

Applicants will be allotted hearings in the order the applications are received.

The applicant for a hearing must file a typewritten or printed brief in duplicate with the editors of the code, on or before ten days before the day set for his hearing.

The brief must describe succintly and accurately the material, safety appliance, method of construction, or other matter which the applicant desires the Chamber to consider for the code, and must set out the physical properties and characteristics of the product or method of construction, why it

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should be considered for the code, and what results are expected to be accomplished by its use. The brief may include blue prints or other form of data.

The hearing will be on the brief filed by the applicant, and the argument of the applicant will be held strictly thereto.

In the event there is filed more than one application representing the same association, material, safety appliance or method of construction, the Chamber will notify the several applicants, and they must determine between them who shall speak at the hearing.

One copy of the application shall be mailed to: Edwin Bergstrom, Editor, Uniform Building Code, California Edition, 1129 Citizens National Bank Building, Los Angeles, California.

The other copy shall be mailed to: Henry Dowell, Editor, Uniform Building Code, California Edition, 55 New Montgomery Street, San Francisco, California.

Every application shall state in writing:

The particular material, safety appliance, method of construction, or other matter for which the applicant desires to file a brief.

If the applicant desires a hearing on the brief.

The date on which the applicant would prefer to be heard.

Whether the applicant prefers to be heard in Los Angeles or San Francisco.

The maximum amount of time at the hearing that the applicant considers necessary to amplify his written brief.

The name of every person who will speak for the applicant at the hearing.

The number of persons that the applicant expects will be present at the hearing, representing the matters on which he is to be heard.

An applicant may file his written brief and waive the hearing. The brief will receive full consideration, whether or not there is a hearing thereon.

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MANUFACTURERS' TRADE LITERATURE

The Leather Mat Manufacturing Company of 340 Sansome Street, San Francisco, has issued a very interesting broadside illustrating Ezy-Rug, for which they are the distributors. This new addition to the various floor coverings now on the market, is a product of the Toledo Rubber Products Corporation of Toledo, Ohio.

Ezy-Rug is especially adaptable for use in theater foyers, churches, banks, schools and elevator cabs, or as the distributor's advise, "Used wherever people walk or stand."

The Union Fibre Sales Corporation of Winona, Minnesota, in some late descriptive material, is calling attention to a new product, Union Rock wool blanket, a fireproof and sound deadener, which is also proof against rodents, termites or other vermin. Its use is particularly indicated in new or old homes, being placed between the ceiling joists; as a sound deadener between floors and as an insulator against cold in winter and excessive summer heat.

ARCHITECT LECTURES

New architecture has molded contemporaneous culture throughout the ages and how it in turn has been developed from contemporaneous civilization was shown by Walter T. Steilberg, architectural engineer, in an illustrated lecture before The Forum at the Hotel Oakland, September 15.

"Periods of Architecture as Expressing Contemporaneous Civilization" was the subject of the talk, which was amplified with more than one hundred lantern views from the private collection of the speaker made during several years of study in Europe.

Features of Oriental, Byzantine, Egyptian, Assyrian, Greek, Roman, Renaissance and modern architecture were presented.

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WAGE SCALE PROBLEMS

Uniform wage scales vs. prevailing wage scales, vocational training and legislation affecting the construction industry are among topics to be discussed at the annual meeting of the California State Builders' Exchange, Ltd., to be held in Stockton, Friday and Saturday, September 30 and October 1.

Headquarters will be maintained at the Clark Hotel and special accommodations will be provided for convention delegates and their friends.

Election of officers will be a feature of this session and a spirited contest looms between candidates from the northern, central and southern sections of the state.

Among the more important matters to come before the meeting, the following subjects of vital interest to the construction industry will prompt considerable discussion on the part of delegates:

(1) "Excessive Compensation Insurance Rates."

(2) "How the Building Industry May Benefit from the Home Loan Bank Law."

(3) "Uniform Wage Scales vs. Prevailing Wage Law Scale."

(4) "Proposed Amendments to Strengthen the Contractors' License Law."

(5) "The Initiative Measure Relating to Trust Deeds and Mortgages."

(6) "Repeal of Restrictive Labor Laws."

(7) "Report Concerning Proposed Amendments to the Mechanics' Lien Law."

(8) "Perfecting Accident Prevention."

(9) "Government Bureaucracy vs. Private Initiative."

(10) "Vocational Training."

(11) "Excessive Taxation."

Speakers prominent in the construction business will discuss the Builders' Exchange part in reviving construction in California through availing funds afforded by the Emergency Relief and Construction Act of 1932.

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Carlos W. Huntington, director of the California State Department of Professional and Vocational Standards, charged with enforcement of the contractors' license law, reports 223 complaints pending in his department during the month of August, of which 45 were filed during the month.

These cases involved a total of $351,000 in new construction or alteration projects. The bureau, acting in a quasi-judicial capacity, has been able to expedite or effect a satisfactory solution and settlement of the various complaints, which has tended to prevent this number of cases from adding to the congestion.

Hearings were held in 37 cases, involving a total of 46 hearings for the month. While it was not found necessary to revoke any licenses, five licenses were suspended and 19 cases were dismissed with the accused contractor being severely warned to guard against future conduct of a questionable nature. In some cases, the names of these offending contractors were "flagged" and their past record will be under scrutiny in the event that other complaints are filed against them. A total of 13 cases were settled by arbitration, while 34 other cases were settled without formal charges being lodged against the erring contractor.

Court proceedings were invoked in five cases, while two other cases were still pending before the judiciary, with three convictions being obtained.

BUILDING CONGRESS

A joint meeting of more than ten national organizations representing every phase of highway and building activities will be incorporated in the Highway and Building Congress to be held in Detroit during the week of January 16, 1933. It is estimated that this gathering will attract 40,000

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people, consisting of highway officials and engineers, contractors, manufacturers, architects, bonding companies, bankers and civic organizations, from all sections of the United States and many foreign countries.

The purpose of the Congress is to devise a coordinated program of future activities that will lead to the immediate improvement in national economic affairs as related to highways and building and, in addition, will prevent a repetition of conditions which have existed for the past three years.

The organizations participating in the Congress are: Construction League of the United States, American Road Builders' Association, Associated General Contractors of America, Truck Association Executives of America, The Asphalt Institute, National Crushed Stone Association, National Paving Brick Association, National Ready Mixed Concrete Association, National Sand and Gravel Association, and the Portland Cement Association.

Simultaneously with the Highway and Building Congress an exhibition of highway and building materials and equipment will be held at the Detroit Municipal Airport. The exhibits will cover the entire floor area of the gigantic airport hangar and will include all types of materials and equipment used in building and highway work. During the past year many new products have been developed in connection with highways. These new machines and devices will be on display for the benefit of those interested in the economical and efficient conduct of highway programs. The exhibition will afford an opportunity for the personal inspection of equipment and materials with regard to their workmanship, stability, adaptability, economy of operation and saving in road and building construction and maintenance.

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SAFETY CONGRESS

The 21st Annual Safety Congress to be held in Washington, D. C., from Oct. 3 to 7, will be of special interest to highway officials. It will present a varied but well balanced program of discussion and demonstration regarding important traffic engineering and accident prevention problems.

The traffic sessions will be conducted under the auspices of the National Safety Council's street and highway traffic section. Among the members of this organization are many highway departments and state highway police organizations. They include such departments and organizations in Massachusetts, Rhode Island, Connecticut, New Jersey, Pennsylvania, Delaware, South Carolina, Tennessee, Ohio, Michigan, Wisconsin, Minnesota, Missouri, Texas, Arizona, Oregon and Washington.

The sessions of the street and highway traffic section will start on Monday afternoon, Oct. 3, with a demonstration of the "Treatment of High-Accident Locations and High-Accident Drivers." A specific problem including both features will be presented and speakers will show how engineering treatment of the location will provide a part of the solution and how the correction of certain characteristics and habits of the drivers will provide another part. This session is intended to give a comprehensive picture of the traffic accident problem, both rural and urban.

The program of the Congress includes a more comprehensive schedule of traffic sessions than has ever been conducted previously. The program has been the work of a widely representative committee of the street and highway traffic section of the National Safety Council, with Lewis W. McIntyre, traffic engineer of Pittsburgh, as chairman. Mr. McIntyre also is vice-chairman of the entire street and highway traffic section.

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